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Jubilee of the "G.W.R. Magazine"

WITHIN recent years railway staff magazines in all parts of the world have come to be accepted as such a valued feature of railway life that it is difficult to imagine a large modern railway administration without this useful means of contact between members of the staff of all grades. The functions of such staff magazines are of course entirely different from those of the technical press, for a considerable amount of space in a house journal is necessarily devoted to social and sporting activities, while descriptive articles are therefore as a rule confined to general outlines of their subjects suitable for those without specialised knowledge. Although most railway staff magazines are of comparatively recent origin there are two outstanding exceptions in the *Great Western Railway Magazine*, which celebrates its jubilee this week, and in the *Southern Railway Magazine*. There was actually a short-lived *Great Western Magazine* which bore the sub-title of "A Miscellany of Facts and Fiction" and began its career in 1863. It was edited by a group of five, one of whom was Mr. A. Beasley (then in the General Manager's Department of the Great Western Railway) who subsequently became well known as General Manager of the Taff Vale Railway. Of surviving railway staff magazines we believe the oldest to be the *Southern Railway Magazine*, which was established on June 1, 1881, as *The South-Western Gazette* and has never missed an issue; its jubilee was duly celebrated in June, 1931. The present *Great Western Railway Magazine*, which forms the subject of an article on pages 777-8, first appeared in November, 1888, under the title of the *Great Western Railway Magazine and Temperance Union Record*. It seems to have had an uneventful career during its early years, but with the appointment as Editor in 1903 of a young man

named Mr. F. J. C. Pole (now of course Sir Felix Pole) it took on a new lease of life, and shortly afterwards was adopted officially by the railway company. Its whole style and tone were gradually brought into line with modern standards and these changes not only were immediately reflected in a tremendously increased circulation, but they also set a standard which has proved a guide for many more recently established journals.

* * * *

Archæology and the Engineer

It was suggested at the opening meeting of the 120th session of the Institution of Civil Engineers on Tuesday, that every good engineer has something of the archæologist in his make-up. The new President, Mr. W. J. E. Binnie, proved the thesis in his address on that occasion, for while he was already known to his audience by his achievements as an engineer in the field of water supply, he then revealed himself also as a thoughtful and painstaking student of archæology. The scope of his address was engineering in ancient times, and the period covered extended from early Egyptian days up to the achievements of Leonardo da Vinci as a military and civil engineer of the Renaissance. Mr. Binnie described and exhibited an Egyptian drill bit, and the stone block in which it was tested by its maker 5,000 years ago. He referred to the dioptra, an Egyptian precursor of the theodolite, which incorporated a worm and pinion drive for fine adjustment. The Romans, he showed, actually speculated upon the atomic structure of matter. In opening his address, Mr. Binnie mentioned how periods of enlightenment have been succeeded by a return to barbarism, which not only cut progress short but to a great extent destroyed the records of investigators. The state at which civilisation would have arrived without these interruptions, and the prospect of avoiding them in future, are matters for topical speculation.

* * * *

The Week's Traffics

In comparison with the corresponding week in 1937 the receipts of the four group railway companies are down as much as £254,000. The shortage is entirely in merchandise to the extent of £208,000 and in coal to the extent of £46,000. On the passenger side the gains of the two northern lines cancel out the losses of the Great Western and the Southern. In the 42nd week the net decrease was £169,000.

	43rd Week				Year to date	
	Pass., &c.	Goods, &c.	Coal, &c.	Total	Inc. or Dec.	%
L.M.S.R.	+ 1,000	- 95,000	- 8,000	- 102,000	- 2,209,000	- 4.01
L.N.E.R.	+ 8,000	- 82,000	- 32,000	- 106,000	- 1,727,000	- 4.30
G.W.R.	- 6,000	- 22,000	- 5,000	- 33,000	- 907,000	- 3.93
S.R.	- 3,000	- 8,000	- 1,000	- 12,000	- 178,000	- 0.97

Merchandise traffics in 1938 continue to show decreases in comparison with 1936, as shown in the following table:—

	43rd Week				Year to date	
	Pass., &c.	Goods, &c.	Coal, &c.	Total	Inc. or Dec.	%
L.M.S.R.	+ 25,000	- 61,000	+ 21,000	- 15,000	+ 143,000	+ 0.27
L.N.E.R.	+ 8,000	- 65,000	+ 2,000	- 55,000	+ 160,000	+ 0.42
G.W.R.	+ 10,000	- 12,000	+ 14,000	+ 12,000	+ 339,000	+ 1.55
S.R.	+ 10,000	- 6,500	- 1,500	+ 2,000	+ 607,000	+ 3.55

In the 43 weeks of 1938 passenger train traffics show an improvement of £2,511,000 in comparison with the corresponding period of 1936, and coal receipts are £906,000 up, but merchandise earnings are down £2,168,000.

* * * *

Supply and Demand

Reports of speeches concerning the present and the future of railways pour into our office from all parts of

the world, and we draw attention to any that are of particular interest or originality, though many that deal with universal problems as they affect local circumstances necessarily repeat views common to those dealing with the same subjects in other localities. A recent example is a lecture given in Bombay by Mr. J. E. Castellino, Commercial Officer of the B.B. & C.I.R., who, besides covering many other aspects of the transport problem, dealt with that ever-present problem, road transport. He welcomed the Motor Vehicles Bill, now before the Indian Legislature, as bringing road transport under some sort of Government control, with the object of regulating what is generally referred to as "uneconomic competition." A few speakers are nowadays drawing attention to the fact that the hitherto prevailing cry for the reduction of supplies to demand is an inversion of what the public really wants. Members of the public would, of course, much prefer some measure to enable them to increase their demand at least to existing supply. As these speakers point out, it is anomalous that the efforts of engineers and inventors to increase the amenities of life without a proportionate increase in the necessity to work harder, should be so continually frustrated by the old-fashioned idea that supply must be reduced to demand.

* * *

Overseas Railway Traffics

There has been no turn of the tide in favour of the four principal Argentine railway companies during the past fortnight, and even on the Buenos Ayres Great Southern the aggregate increase of £3,103 a fortnight ago has now been turned into a decrease of £3,225. On the other hand the Entre Rios has improved its traffic position by £4,548 in the two weeks, making its increase to date £24,529. In the same period Central Uruguay receipts have advanced by £2,488 and \$21,312.

	No. of Weekly Week Traffics	Inc. or Decrease	Aggregate Traffic	Inc. or Decrease
Buenos Ayres & Pacific ..	18th 72,705	— 10,484	1,250,065	— 166,748
Buenos Ayres Great Southern ..	18th 122,270	— 6,018	2,150,249	— 3,225
Buenos Ayres Western ..	18th 42,122	— 7,382	677,915	— 141,751
Central Argentine ..	18th 102,994	— 25,570	1,798,476	— 339,113
Canadian Pacific ..	42nd 729,200	+ 70,000	22,338,000	+ 668,000
Bombay, Baroda & Central India	28th 235,575	+ 6,975	4,719,450	+ 75,600

Canadian Pacific net earnings for the nine months to the end of September were £1,466,000, a decrease of £1,148,800, which was, however, £102,000 less than at the end of August.

* * *

Railway Nationalisation in Argentina

At the meeting of the Buenos Ayres Western Railway, which we report on page 796, the Chairman, Sir Follett Holt, stated they could take no exception to a policy of nationalisation of the Argentine railways, as it was the board's view that the people of the country who benefited so largely from the railways should at least share in the heavy responsibilities of their finance and risks. The British-owned railways, he said, deserved well of the country; it should be recalled how they went through the then desert lands to Cordoba and Tucuman, to Mendoza and the Pampa, to the mud flats of Bahia Blanca, and in a national emergency to Neuquen, and then gave Entre Rios, Corrientes, Misiones, and Paraguay the railway connections they so urgently needed. It was true that had the Argentines at the time possessed the trained men and the capital or the credit, they could have built these railways for themselves, but they had not. If they had built the railways, their present national debt would have been more than doubled. Up to a few years ago the beneficial result of all this capital and enterprise was shared alike by Argentine and Briton, but now the lion's share of the profit in the shape of the use and services of the railways

was Argentine and the Briton's share had become microscopic. It was these same railways of British ownership which still enabled Argentina not only to produce but to export to Britain enormous quantities of wheat, maize, and meat, of a value far in excess of anything Argentina could buy back in return.

* * *

Amalgamations in Argentina

The future of British railways in Argentina has been discussed from various points of view at recent company meetings, and as far as nationalisation is concerned it is still largely a matter of speculation. Mr. J. A. Goudge, Chairman of the Buenos Ayres & Pacific Railway, referred at the company's meeting on Tuesday (reported on page 796) to the possibly more immediate matter of amalgamations between railways to promote economy in working. At present the Railway Law of 1891 is still in force, prohibiting any agreements to modify competition or achieve fusions. There is every hope, however, that the Chamber of Deputies will confirm a Law now before it providing for working agreements, amalgamations, and pooling of traffic. Meanwhile, the B.A.G.S. and B.A. Western companies have already amalgamated certain departments of management, and Mr. Goudge was able to announce that similar steps had been taken and more were contemplated to secure co-operation and economy by closer working between the Central Argentine Railway and their own company. At the close of the meeting Mr. Goudge received a vote of thanks for his conduct of the proceedings, the first at which he has presided since succeeding the late Lord St. Davids as Chairman.

* * *

Centenary of Sheffield & Rotherham Railway

On October 31, 1838, George Stephenson attended a banquet at the Tontine Inn, Sheffield, to celebrate the opening of the first railway in the city, and the centenary of this event is worthy of notice if only for the fact that the line in question, although promoted purely to serve local needs, provided the first main-line railway connection between Sheffield and the rest of the country. The Sheffield & Rotherham Railway was authorised by an Act of July 4, 1836 (after one unsuccessful application to Parliament), and ran from the Wicker station, Sheffield, to a terminus at Rotherham. Public traffic began on October 31, 1838, and at first far exceeded the expectations of the promoters, passenger traffic alone by upwards of 63 per cent. On May 11, 1840, the North Midland Railway was opened from Derby to Masborough, and there established a connection with the Sheffield line enabling through trains to be run between Sheffield and the south. Sheffield remained a terminus until February 1, 1870, when the opening of the line from Chesterfield placed it on what may be described as a bypass of Stephenson's North Midland line. The North Midland worked the Sheffield & Rotherham traffic from October 10, 1844, pending Parliamentary sanction to complete the merger which was given by an Act of 1845; the line is thus today part of the L.M.S.R. system.

* * *

The New St. Pauls Station

The number of passengers using the Post Office station of the old Central London Railway has increased by 23 per cent. since 1919, and it was for this reason that the reconstruction of the station—now named St. Pauls—became imperative. This work is rapidly nearing completion, and the contractors are adding the finishing touches in readiness for the opening in December. Since the work was begun in October, 1935, the thousands of

City workers who pass this busy spot every day have seen little to indicate that anything unusual was taking place, except for the erection of a small enclosure at the corner of Cheapside and a slight traffic diversion in consequence, but during those three years there has been considerable underground activity. In addition to diverting a network of Post Office pneumatic tubes and telephone lines, gas and water mains, electric power and light cables, the engineering work included the removal of the L.C.C. main sewer from the south to the north side of Newgate and the safeguarding of the foundations of St. Paul's Cathedral. Many of the passages and shafts of the old station, which had five lifts, will be converted into ventilation air ducts.

* * * *

More Colour-Lights on the L.N.E.R.

On page 783 we publish a description of the important resignalling carried out on the Shenfield—Chelmsford and Shenfield—Southend lines of the L.N.E.R., Southern Area, linking up with the colour-light signalling that has been in use for about five years between Gidea Park and Shenfield. Some semaphore automatic signals already existed on part of the Chelmsford route, but these have been changed to colour lights, rendering the aspects uniform throughout. The general principles adopted in these installations are similar to those seen in other resignalling schemes carried out in the last few years in the Southern Area. It is interesting to note that d.c. rectifier-fed track circuits, with primary cell standby, are being extensively used and are held to be superior to the trickle-charged accumulator method, economically and in other ways. The opposite view is heard expressed elsewhere and we should much like to see a statement of comparative costs, inclusive of maintenance over a reasonable period, as we cannot reconcile the conflicting opinions we hear on the matter.

* * * *

Pneumatic Tubes for Telegrams

Several important centres on the Great Western have pneumatic tube systems for rapidly distributing telegrams to the addressees in the various offices. At Paddington, for example, some 1½ million internal and postal telegrams are received in a year, and the great majority is in the addressee's hands within one minute of arrival. The pneumatic tubes at Paddington radiate from a central office, which has sole control of the air power for distributing telegrams received or drawing in by suction messages from the offices for transmission. When the Temple Meads (Bristol) goods station was rebuilt in 1933, the opportunity was taken of installing a new type of pneumatic system in which a single continuous tube circulates among all the offices. The telegraph office can despatch messages to any other office on the circuit as at Paddington, but the departments concerned can both send outgoing telegrams to the telegraph office for despatch and exchange messages among themselves. To send a message, all that is necessary is to depress a numbered push-button appropriate to its destination. All message carriers travel in the same direction.

* * * *

Views on Interlocking 50 Years Ago

To one of the first numbers of the *Great Western Railway Magazine*, that dated April, 1889, the late Mr. A. T. Blackall, who was Signal Engineer of the G.W.R. from 1897 to 1923, contributed an article on "Locking," which shows that even then the design and construction of interlocking mechanism had attained a remarkable degree of perfection. We read therein that the then Paddington

Departure signal box had 56 working levers, with which 4,365 movements were made daily, the combinations of which were governed by no fewer than 347 locks, arranged "so far as experience is able to foresee, to prevent the simultaneous performance of conflicting operations likely to lead to an accident." Point detectors are referred to as "one of the most recent elaborations of locking," and said to be constructed on exactly the same principles "as the first example of locking known." The Great Western, according to Mr. Blackall, was by then carrying out its own signal work at Reading, many of the parts being "of original design and construction." The maintenance, however, was under the Divisional Engineers, a plan not abandoned until 1893. There is an amusing account of an inspector on a railway "which shall be nameless," but which we suspect was the Great Western, who, unable to lower a signal owing to the new locking, sent for tools to remove the lock, angrily exclaiming "What is the use of a signal that can't be lowered when it's wanted?" The engineer, we are told, "took steps to check the inspector's zeal!"

* * * *

Driving Axle Failures

A report issued under the auspices of the Association of American Railroads states that during a six-year period covering a large number of investigations, there were 895 driving axle failures on 864 steam locomotives in freight and passenger service on 34 railways, owning 70 per cent. of the total number of locomotives in service in the United States and Canada. The average rate of failures reported was approximately 6 driving axle failures a year for 1,000 locomotives in service; and it is further stated that there were approximately seven times as many failures of main driving axles as there were of other coupled axles. On freight engines 80.7 per cent. of all driving axle failures occurred in the journal, and on passenger locomotives 41.7 per cent. of the failures were of this nature, 55 per cent. occurring in or near the wheel seat. No definite causes were given for 47.6 per cent. of all driving axle failures, and this applied also to 68.8 per cent. of failures in the wheel fit. The principal causes of driving axle failures in order of frequency of occurrence were: overheating in service, 67.6 per cent. of known causes; poor material, 14.9 per cent.; poor machining 12.8 per cent.; and wear, 4.7 per cent.

* * * *

A "Mess-handled" Situation

To have to wash one's hands three times within half-an-hour, in order to efface the unlovely impression left by carriage-door handles, sounds, by the leave of Miss Rebecca West, a "strange necessity." Such an experience, nevertheless, befel us on a recent railway journey (once again, no names, no pack-drills), and it was indeed fortunate that the ablutionary media after the third defilement proved adequate, otherwise the map of Ethiopia left on our right palm might, when we greeted the potentate with whom we had business, have left a still more unlovely impression. Dealing with members of the carriage-cleaning staff who have a perverted Brasso or Bluebell complex is surely not an insuperable task for the hierarchy, and we might suggest employing in a supervisory capacity an ex-sergeant-major with an honourable and gallant "tunic button" record. We feel sure that strong action would result, and that each delinquent handler of the rag would speedily find himself saying, in Gilbertian style: "I polished up the handles unsuccessfully, so now I am a very humble employee!" Happen what may, we shall welcome remedial measures, for, while appreciative of good fun when travelling, we do nurse a distinct predilection for good clean fun. . . .

Evacuation in War

THE Report of the Committee on Evacuation was issued on October 27 as a Blue Book (H.M. Stationery Office, 9d. net). The Committee was appointed on May 24, and consists of Sir John Anderson (Chairman), Sir Percy Harris, Lt.-Col. George Doland, and Dr. Haden Guest. The Report was completed some time before the crisis (it is dated July 26), but in view of the international situation its publication was suspended. A covering memorandum by the Home Secretary says that the recommendations of the committee have been accepted in principle by the Government and action has been taken to examine and prepare in detail the measures required for evacuation. Now that the report is issued there may be some disappointment felt that it does not carry this vital question much farther. The committee, after examining all the important evidence, has not attempted to offer to the Government any more than recommendations arising out of general principles. The conclusions arrived at by the committee are based on the consideration that "the whole issue in any future war may well turn on the problem of evacuation from densely populated industrial areas." If this initial suggestion is well founded (and there is yet no precedent to prove it) then the necessity for some measure of evacuation must be faced, although, the committee observes, plans for evacuation are no substitute for measures of active or passive defence.

Granted that the evacuation will be necessary, there comes the no less vital question of transport, and on this score the committee concludes, "There appear to be adequate transport facilities, certainly in the London area, for a scheme of evacuation on any practicable scale." To this end the main-line railways would be used, fed by underground railways and buses. This question was discussed by the committee with the representatives of the railways and the London Passenger Transport Board. Based on the assumption that refugees should be moved to points 50 miles distant, and assuming that they would be collected by bus and taken to the nearest underground station and thence transferred, on the outskirts, to main-line trains, the London Passenger Transport Board have calculated that they could remove 100,000 persons an hour from London. There would be some excess capacity over this figure, but an exodus at this rate would mean the total suspension of other suburban and main-line services and would exclude goods traffic entirely. In the event of these services having also to be provided, the removal of refugees would be slowed down, but not to any great extent. A considerable proportion of the L.P.T.B. buses would be used on skeleton services, not only in taking persons from their homes to underground stations, but also for the transport of refugees from tubes to main-line stations on the outskirts of London. No mention is made by the committee of road transport other than the London buses, possibly because other road vehicles would in time of war be requisitioned for military purposes and for the transport of supplies proceeding from shipping diverted from the east to the west coast ports. The road traffic problem, with the complications that will ensue on a voluntary exodus from central areas, quite apart from the organised evacuation of the poorer or helpless classes, has already been considered by the Commissioner of Police, in conjunction with the L.P.T.B. and the road services associated with the main-line railways.

Notwithstanding the delay in the publication of the report, the railway managements were already acquainted with the general conclusions, and these had already been taken into consideration. As we explained in an editorial article on October 7, a Railway Executive Committee was appointed by the Minister of Transport at an early stage in the crisis, and among other essentials the ques-

tion of evacuation was considered. To this extent, therefore, the issue of the report of the Anderson Committee is extemporaneous. Nor can it be considered in any way as conclusive. The events of the last few weeks have shown far more clearly than any academic reasonings the necessity for reorganisation and preparation. Above all, in the same way as the railways have set up their executive committee, some central authority should, in our opinion, be constituted for the whole of the London area, with which the Railway Executive Committee could collaborate. Other difficult questions, such as billeting, are dealt with fully in the report, but they are outside our province. The report, if it is not conclusive, has at least prepared the way and will no doubt serve as a basis, with recent experiences, to the formation of a properly considered plan of action. Coinciding with the issue of the Report on Evacuation, the Institute of Structural Engineers publishes the report of its committee on air-raid precautions. We review the report on page 773 of this issue, and would add here that it forms a corollary to the evacuation report, as, although it does not touch evacuation, it does describe very graphically, and with the aid of recent examples from Spain and China, the effects of the air raids on congested areas which may be expected to make evacuation both inevitable and difficult. Incidentally, the penetrative effects of heavy bombs, as described in this report, have already been considered in relation to our underground railways.

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Sudan Railways

THE Sudan Railways have a route-mileage of 2,015 on the 3-ft. 6-in. gauge. River services on the Nile and its tributaries are also operated by the railway administration over a distance of 2,325 miles. Steamer services from Wadi Halfa to Shellal in the north provide a connection with the Egyptian State Railways, and in the south the chief river service is from Khartoum to Juba. The main railway system of 576 miles runs southwards from Wadi Halfa to Abu Hamed, Atbara, and Khartoum. There is railway communication between Atbara and Port Sudan on the Red Sea, where a modern harbour has been constructed, which is operated by the railway administration. Power stations, and hotels and catering are also among the services provided.

All the services together brought in for 1937 a gross revenue of £E.2,842,394 and a net revenue of £E.1,356,451, which compare, respectively, with £E.2,621,834 and £E.1,250,153 for 1936. Profits from steamer services in 1937 amounted to £E.31,491, against £E.44,557 for 1936; from Port Sudan Harbour to £E.108,308 against £E.87,092; and from hotels and catering to £E.4,244 against £E.3,332. A fresh record in revenue was achieved in 1937. The excellent cotton crop contributed in large measure to this result, but there was also a satisfactory movement of general merchandise and passenger traffic. There was an increase in the number of railway passengers in all four classes and the total passenger revenue improved by £9,109, although the reduction of fares introduced in October, 1936, had the effect of lowering the revenue from all classes except the fourth. In export goods traffic (*i.e.*, all traffic carried to Port Sudan, Wadi Halfa, and Shellal), the tonnage of principal commodities was 324,536 in 1937 against 299,798 in 1936, the chief improvement being in ginned cotton and cotton seed. Import traffic (*i.e.*, traffic carried from Port Sudan, Shellal, and Wadi Halfa) in the more important commodities amounted to 205,220 tons in 1937 against 214,472 tons in 1936. The diminution is entirely accounted for by the reduction in cement and coal traffic caused by the completion of the Jebel Aulia dam in 1936. Imports of

petroleum products have largely increased during recent years, and the heavier imports of flour, piece goods, sugar, and tea indicate the greater purchasing power of the population. In the local traffic of 187,356 tons the decrease of 173,985 tons is almost entirely in stone traffic due to the completion of work on the Jebel Aulia dam. Figures in the accompanying table refer to railway services only:—

	1937	1936
Route-miles	2,015	2,020
Passengers	1,210,417	967,653
Goods tonnage	769,331	913,054
Train-kilometres	3,367,700	3,179,933
Operating ratio, per cent.	46.3	46.5
	£ E.	£ E.
Passenger receipts	243,903	234,509
Goods receipts	1,843,350	1,693,532
Total revenue	2,223,241	2,066,973
Working expenses	1,028,718	960,925
Net profit	1,194,523	1,106,048

The increase in train-kilometrage was due to a lighter average wagon load, a 25 per cent. increase in passenger traffic, and heavy engineering work. Four new Garratt locomotives were put into service early in the year, thereby easing the engine position during the peak of the traffic. Six additional Garratt locomotives are on order. The two diesel shunting locomotives worked satisfactorily during the year. During 1937 the progress periods for locomotive repairs were further reduced to 40 days for heavy repair and 25 days for a light repair. In the carriage and wagon section the schedules were 25 days for the better class stock, and 22 days for other stock.

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Railway Working Hours

DURING last week the governing body of the International Labour Office (I.L.O.) held a series of meetings in London. The headquarters of the I.L.O. are in Geneva, but it is the custom of the governing body to hold one session every year in the country of the Chairman, who is elected annually. The Chairman for this year is Mr. F. W. Leggett, of the British Ministry of Labour, and on October 24 the delegates were welcomed by the King at Buckingham Palace, and by the Government. The governing body considered a resolution of the International Labour Conference in June asking for technical tripartite meetings to be summoned to study the reduction of hours in transport. As recorded in our Staff and Labour Section on page 792, it was decided by 17 votes to 7 to call such a meeting, consisting of representatives of governments, employers and workers, to be held in March, 1939, with a view to the subsequent inclusion of this subject on the agenda of the International Labour Conference for the adoption of international regulations. The governing body decided to discuss, at a later stage, when and under what conditions tripartite meetings could be called for transport by inland waterways and by air, taking account of the development of the national legislation and the stage reached in the preparatory work of the I.L.O.

The decision to examine the question of a reduction of the working hours on the railways is an important step, but great care will be necessary if injustice is to be avoided in this country. So far as the British railways are concerned the hours of work of the staff are governed by National Agreements, and there exists a comprehensive scheme of machinery of negotiation established voluntarily by the railway companies and the railway trade unions for dealing with modifications of those Agreements desired by one side or the other. The need for statutory regulation of working hours on British railways is not, therefore, manifest. The present standard hours are 48 a week, and the main body of railway staff enjoys, in

addition, a guaranteed day, a guaranteed week, and an arrangement whereby, for the purpose of payment of overtime, every day stands by itself. It may fairly be said that such conditions do not equally apply abroad, and, therefore, in examining any proposal to reduce hours generally, full regard must be paid not only to the circumstances which have led to the existing position, but also to the economic situation in which the British railways find themselves today.

The eight-hour day for British railwaymen was conceded in December, 1918, when the railways were under Government control. The principle of the eight-hour day was given effect to as from February 1, 1919; and in 1921, when the railways were handed back to the companies, the latter had to assume the heavy financial burden which the far-reaching concession involved. In January, 1922, the National Wages Board (Decision No. 2) stated that the application of the eight-hour day to railways was not subjected, on its introduction in 1919, to that "minute examination and discussion between the companies and the employees, which so considerable an innovation deserved, and would normally receive." Towards the end of 1936 a move for an important reduction in railway working hours was made by the Associated Society of Locomotive Engineers and Firemen, and a demand was put forward for a six-hour day and a 36-hour week. The companies were unable to accede to this demand, and the claim proceeded through the normal stages of the agreed scheme of machinery of negotiation to the Railway Staff National Tribunal, which decided against the claim in its finding No. 2, dated September 29, 1936. The annual cost of the claim for the grades represented by the associated society was estimated at about £6 millions, but it was obvious that such a change, if made, could not be confined to the locomotivemen, and the tribunal pointed out that the annual cost in respect of all grades would amount to about £30 millions a year.

In August, 1937, the tribunal decided against a claim preferred by the Railway Clerks' Association on behalf of salaried and clerical grades for a reduction to 36 a week of all hours of duty in excess of that number, and it was stated in the tribunal's report that the cost of a general 36-hour week would be £28,979,000 a year. When it is remembered that the total net revenue of the four main line railway companies was less than £38 millions last year, and that this year's figure is likely to be even smaller, the utter impossibility of conceding so costly a claim will be obvious. That an efficient railway service is essential to Britain cannot be disputed, nor will it be doubted, we think, that the imposition on the companies of the crushing burden of financing a general reduction of working hours would irretrievably weaken, or even completely destroy, that efficiency for which our railways are famed. The results of the experiment recently made of a 40-hour week on the French railways do not encourage optimism, and so it seems to us to be of paramount importance that the proceedings of the I.L.O. in relation to the problem in question be watched with the keenest attention.

RAILWAY RENEWALS AND RECONSTRUCTION.—During the past fifteen years £330,000,000 has been expended by the British railways upon renewals, reconstruction, additions, and replacements, including work upon the track, locomotives, carriages, wagons, signalling, stations, and depots. It is estimated that £900,000,000 has been spent upon the construction of the 50,000 miles of railway tracks in this country. More than £19,700,000 is spent annually on maintaining and renewing railway permanent way, signals, buildings, and so forth. During a year the engines and trains of the main-line railways cover no fewer than 594,864,000 miles.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Cross-Country on the Southern

Traffic Manager's Office,
Waterloo Station, S.E.1

October 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—A letter appeared in your issue of October 7 from Mr. J. Ivan Bowerman, in which he criticised the connections at Fratton for passengers returning during the late evening from Southampton to Guildford. To this you appended an editorial note, in which you very aptly stated that the question was "how many people in the course of a year are likely to make the journey from Southampton to Guildford at the time stated after seeing a friend off on the *Normandie*." Actually the number in the course of a year is very small indeed.

It is rather an interesting coincidence that my Divisional Superintendent received a letter dated September 13 from the same address as that given by Mr. Bowerman, viz.: 17, Bannisters Road, Guildford, but signed by Mr. G. N. Mount, asking whether on September 21 the 11.2 p.m. train from Fratton to Guildford could be held to make a connection with the train from Southampton due to arrive at Fratton at the same time. To this the Divisional Superintendent replied on September 16, agreeing to meet the request. Mr. Mount subsequently made a verbal application for the facility to apply on October 5 instead of September 21, and this request also was readily acceded to, and arrangements were made accordingly.

It is perhaps unnecessary for me to add that we are willing, and indeed anxious, to meet all reasonable requests whenever the circumstances permit, and we were very glad to be able on the occasion under notice to comply with Mr. Mount's wishes.

Yours faithfully,
E. J. MISSENDEN

Timetables

United University Club,
1, Suffolk Street, S.W.1

October 15

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The current issue of *Bradshaw* purports to show the train services from September 26 to October 31, 1938; I open it casually, and at once find a train with a note "Fridays only: commences June 2, 1939." What could be more irritating to a person contemplating a railway journey in October, 1938, than to be told that there will be a train on Fridays in June, 1939? Somebody once described a British policy of marine insurance as the work of a lunatic with a sense of humour; in preparing a timetable humour is out of place.

On the chance that you may not already have it I enclose a copy of the New York Central timetable for the past summer. It is well printed; it gives a vast amount of information in a small bulk; and it is in a form which anyone can understand. Incidentally, the table of charges on pp. 13-14 shows how much luxury an American passenger can now obtain for about the price of a single journey third class ticket in England. And the timetable is obtainable everywhere without payment.

To one of my generation electric traction is a soulless affair, yet the following timing seems worthy of notice:—

Pennsylvania R.R. Electric:—

	p.m.
New York dep.	3.30
Newark	3.44
North Philadelphia ..	4.49
Philadelphia	4.57
Wilmington	5.24
Baltimore	6.24
Washington arr.	7.5

That is, 226.5 miles in 215 minutes, with five stops on

the way and cautious running through city areas. Although there are very many trains in this New York—Washington service the individual trains are quite heavy; one in which I travelled must have weighed about 1,200 tons.

The running may be compared with that of Great Western trains between Paddington and Plymouth, almost exactly the same distance.

Yours, &c.,
W. B. THOMPSON

Locomotive Driver or Engineer?

London, N.W.1
October 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Would you please be so good as to explain for the benefit of others as well as myself, how the title "Associated Society of Locomotive Engineers and Firemen" can be justified. Surely the proper title for this body should be "Locomotive *Drivers*" and Firemen's Association," for whatever view may be held in the U.S.A. regarding the status of an engine driver, in this country the term "engineer" used in connection with locomotives is meant to convey one who is responsible for, or takes a leading part in, the designing, building, or maintaining of the engine.

Even the men in locomotive shops are referred to as mechanics and not as engineers, yet they are much more entitled to the latter designation than are the drivers, whose work, although admittedly fraught with great responsibility and demanding considerable skill and judgment, does not call for any actual engineering knowledge for its performance.

Surely if an engine driver can rightly be called a locomotive engineer, then every driver of a motorcar, man or woman, can claim to be an automobile engineer.

Yours faithfully,
M.I.MECH.E., M.I.LOCO.E.

[We submitted our correspondent's enquiry to the General Secretary of the A.S.L.E.F., who has replied as follows.—
ED. R.G.]

Associated Society of Locomotive
Engineers and Firemen,
9, Arkwright Road, Hampstead, N.W.3
October 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In reply to your letter of the 17th inst., I desire to point out that the title of our society is strictly in accordance with the very responsible duties that our members are expected to perform.

In this direction it is well to point out that they have to pass very important technical examinations and in cases of emergency due to failures on the road, in many cases they have to dismantle one side of the engine and so fix the remaining part of the machinery so that the engine can be worked home (a) under its own steam or (b) hauled by another engine. There are many other duties of a technical nature that they have to perform in addition to engine driving which to a large degree accounts for the efficiency of the railways in England being second to none in the world.

Yours faithfully,
W. J. R. SQUANCE,
General Secretary

A Scenic Route to the Cardigan Coast

London, W.6
October 25

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I think Major Dewar in his letter in your October 7 issue has not quite understood what I meant by the "Upper Wye valley in *Central Wales*." I would define this as that part of the river between Hay and Rhayader in Wales. The

publicity matter he mentions deals almost exclusively with the lower valley, a beautiful district, but one which has, alas, been discovered with joy by the proprietors of motorcoaches of the "Bluebird" and "Pride of the West" type.

Hugh Page's "Rambles in the Wye Valley" does not even get above Hereford, while the Ross-on-Wye poster depicts a place only about 15 miles from the river mouth. Again the Gregory Brown poster, if I recollect rightly, illustrates the lower valley, while the few lines scattered about in "Holiday Haunts" can hardly be said to meet the need for publicity.

The wild beauty and diverse charms of the upper valley of the Wye would make it in my opinion an unequalled attraction for the wealthier type of tourist were he given the right

facilities. Its very remoteness would ensure its exclusiveness. Sparsely populated it may be, but the train service I advocated would naturally be primarily for the encouragement of the tourist, not for the benefit of the local inhabitants and need not run "out of season." As for limited accommodation, here is a chance for the G.W.R. Hotels Department to set the ball rolling by starting a small hotel. Cornwall and Devon owe a great part of their present popularity to the endeavours of the G.W.R. but it was not so long ago however that the former, especially, was as little known as Central Wales today.

Yours faithfully,
"VITESSE"

PUBLICATIONS RECEIVED

Report of the Committee on Air Raid Precautions.

The Institution of Structural Engineers. London: 11, Upper Belgrave Street, S.W.1. 8½ in. × 5½ in. 48 pp. Price 1s. post free.—The Institution of Structural Engineers appointed a committee to consider the problems arising out of air raid precautions from the point of view of the structural engineer and his client. It was intended that an exhaustive study of the matter should be made, backed by experiments and investigations.

With the development of the crisis, however, it appeared to the committee that the presentation of an immediate report might be of greater service than a more exhaustive study at a later date. For the same reasons Parts I and II are now published, leaving Parts III and IV to a later issue. Incidentally, the publication of this report coincides with the issue of the Anderson Report on Evacuation, reviewed in our editorial columns this week. Part I contains a digest of published information, and Part II, the committee's recommendations for protecting existing buildings. Parts III and IV to be published later, are to deal with air raid shelters and new buildings.

In Part I the published information is summarised and classified under two heads, describing, in (a) the weapons of aerial attack, and in (b) the resistance of materials and structures. It is considered unnecessary to expect that any more powerful explosive would be devised than those used in the war of 1914-1918; the practicable limit seems to have been reached. A table is given showing the effect of larger and smaller explosive bombs on a mass of concrete. Data are also given as to the angle of fall of a bomb and the velocity of its arrival, and the result of full scale tests are quoted as to the penetration of bombs. Actual experience of the effects of aerial bombardment from Barcelona and China are quoted, and in this respect the committee obtained first-hand information from Mr. Langdon-Davies, who was present in Barcelona during the worst air raids, and from whose work "Air Raid" examples are quoted. The description of the action of a high explosive bomb falling in a street in Barcelona is very vivid, especially showing the effect caused by the suction after the ex-

plosion. Information is given as to the comparative resistance of various materials and structures against both explosives and gas. Part II of the report affords full information as to the Home Office recommendations for strength of floors and roofs, and directions are given for protecting buildings against incendiary bombs, gas, and high explosives, ending with general recommendations.

Railways Today. By J. W. Williamson, B.Sc. London: Oxford University Press. Amen House, Warwick Square, E.C. 8½ in. × 6 in. 160 pp., 23 plates and 21 drawings. Price 3s. 6d.—To present an accurate picture of railway operation in its modern form has been the aim of the author of "Railways Today," and we have no hesitation in stating that he has succeeded admirably despite the severe limitations imposed by the modest size of the volume. Freed from the usual clutter of railway legends, however, the subject is put before the reader in a clear, concise manner, yet no essential feature of operation is neglected. In his first chapter the author traces briefly the evolution of the railway from the industrial tramway of the eighteenth century to the highly developed instrument of transport as we know it at the present time, a change made possible by the introduction of the steam locomotive and a suitable form of permanent way, and in dealing with the mechanical aspect of railways the author emphasises the fundamental advantages so frequently put forward by those who advocate rail transport whole-heartedly, despite the fact that the word "fundamental" might be applied with greater accuracy to the matter of economics.

The path of the historian is admittedly a difficult one, however, and once past its obstacles, Mr. Williamson proceeds at a refreshing pace, as indeed he must, to cover his vast subject within the time available. The reader may well be unaware that he is assimilating a technical treatise, so easy is the author's style, and so lucid and carefully-chosen are the illustrations. Diagrams are included to assist the explanation of Traffic Operation (here the authorship of "A British Railway Behind the Scenes" is easily recognisable) and in the chapters dealing with features of operation such as water pick-

up apparatus. We cannot leave the matter of diagrams without mention of two excellent drawings dealing with the Walschaerts valve motion and with locomotive wheel balancing, for these are typical in that they are intended obviously to assist the reader rather than to impress him with the technical nature of the subjects. The numerous photographs are distinctive also in that they are remarkably up to date; as an example, mention must be made of an illustration of a "Q" type 0-6-0 locomotive of the Southern Railway.

Electrification receives scant attention as regards detailed examples of such schemes, although the subject itself is discussed fully enough in principle. Thus a reader not acquainted with British railways might assume that the executives of the four groups were still debating the conclusions of the Weir Report, and would remain in ignorance of the fact that at least half-a-dozen large towns on the south coast of this country are provided with main-line electric services; indeed, the railway responsible for this enterprise is not mentioned by name throughout the chapter dealing with electric traction, the author's most generous statement being that "a considerable mileage of the existing London suburban lines has been converted from steam to electric traction." No mention is made of the forthcoming electrification of the Sheffield-Manchester main line, nor of the contemplated scheme put forward by the Great Western Railway, omissions which tend to give an unfortunate bias somewhat surprising in a comprehensive work from a scholarly pen, and which one would scarcely expect from the title of the book. Apart from this, however, no criticism could be levelled at the volume as a whole, and the author need have no fear that the reader would agree with his concluding remarks to the effect that the story suffers by reason of its necessary brevity.

Winter Sports.—Cook's well-known "Winter Sports" handbook has just been issued for 1938-39 in its usual comprehensive form. There are a number of new and interesting features this season, including a combined holiday in Switzerland and France, special cheap season tickets at Chamonix, to include mountain railways and ski-hoists; also additional centres—The Belchen, Champéry, and Scans. Copies of the publication may be obtained at all the offices of Thos. Cook & Son Ltd.

THE SCRAP HEAP

Louisville traffic sign: "Slow down before you become a statistic."

FOSTERING SEASIDE TRAFFIC

The Cambrian Railways Company has made a new departure in arranging to issue a first class free pass for five years in favour of persons who undertake to build houses of £50 per annum rental at the various Cambrian coast watering places.—From "The Railway News" of November 29, 1902.

We learn that on and from July 1 the London & North-Western Railway Company will take over the cartage business of Pickford & Co. This will doubtless enable the company to effect large economies in the collection and delivery of goods at all its principle traffic centres, and enable it to reduce considerably the expenses of clerical work, which under the present conditions is practically performed in duplicate.—From "The Railway News" of March 9, 1901.

The day of the big airplane has arrived, the Big Ship that will put Europe within overnight reach of New York. It will be heavier than a Pullman sleeper and considerably more commodious. Potentially, engineers state, the airplane is the most efficient means of transport, and hence potentially the cheapest. After a century of evolution, the railroad train is about 3 per cent. efficient in passenger-carrying ability; that is, a full train pulls 97 lb. of deadweight for every 3 lb. of passenger. By the same reckoning an ocean liner is only about 2 per cent. efficient. But the airplane of today is about 12 per cent. efficient. It appears from care-

ful calculations that the plane of tomorrow, if booked solid on every crossing, can carry passengers for a smaller cost per passenger-mile than any present large air-liner; less than one and a quarter cents. If railroads could carry enough passengers to bring their passenger-mile cost down to such a figure they would not be losing money.—Condensed from "Fortune" (reproduced in "The Reader's Digest" for August, 1938.)

Our contemporary, the *Great Western Railway Magazine*, is celebrating fifty years of existence with its current (November) issue. It is said that there are only seven original jokes, and therefore it is interesting to reprint a story which appeared in the very first issue of the *G.W.R. Magazine*—just a half-century ago, together with one which went the rounds as an original yarn at the time of the amalgamation under the Railways Act of 1921—about a third of a century later. Here is the story from the *G.W.R. Magazine* of 1888:—

When the railway between St. Petersburg and Moscow was first opened there were no through trains. The passengers from either terminus were exchanged at a central station erected on the bare steppe. A few days after the opening of the new route, two friends started simultaneously from St. Petersburg and from Moscow, and met at the central point. They embraced, they tea'd, they smoked, and they vodkaed, and, quite absorbed in conversation, were not observant of what was taking place on the platform, until, roused by the bugle call, they rushed out and got into a carriage together. Tired of their discussion of commerce

and politics, they naturally turned to the advantages promised by the new mode of travelling. "A wonderful system—a wonderful system," said one of them, "but I don't quite see how it is all managed; for instance, you are going to St. Petersburg and I am going to Moscow, and we are both in the same carriage; I don't understand how it's done."

Here is the twentieth century application, which is taken from "The Best Railway Stories," published by the Richards Press:—

Two officials met at Crewe and talked over the prospects and effects of this revolutionary piece of legislation. They talked long, adjourning to the refreshment rooms the better to deal with so vast a subject. They wine'd as they talked. Later they continued their conversation in the train, for still they had not exhausted the wonderful possibilities of this unique measure. "Yes," said one of them for the umpteenth time. "This grouping really is a wonderful thing. Here are you going to London and I'm going to Manchester, and yet we're both in the same train. Marvellous!"

Owing to the popularity of its holiday caravans, the L.M.S.R. has decided to increase its fleet of 142 situated at various seaside and inland sites in England and Wales by an additional 40 vehicles, making a total of 182 in all. These new vehicles to be brought into commission in readiness for the 1939 holiday season. During the past season close upon 2,000 weekly tenancies were booked in England; over 500 in Scotland; and 207 in Northern Ireland. Advance bookings are now being effected for next year, and already every available site in England and Wales has been taken for August Bank Holiday week.

One Hundred Years Ago

Extracts from the November, 1838, issue of "The Railway Magazine" (afterwards "Herapath's Railway Journal") and the oldest constituent of

THE RAILWAY GAZETTE

Sheffield & Rotherham Railway.—This line is expected to be opened the day of our publication, Wednesday, October 31.

North Union Railway.—The whole of this line was opened by the directors, October 21, from Parkside to Preston, twenty-two and a half miles, and the distance run in forty-five minutes. This line, with the Grand Junction and Birmingham, opens a continued railway communication from London to Preston.

The "Times" Paper and Railways.—Among the editorial leaders of the "Times" of October 23, is an article complaining of the monopoly of railways, the sad effects they are producing on inns, stagecoaches, posting, &c.

We are sorry our limits will not allow us to extract the article, and we are still more sorry to see such a tone in a journal which never writes upon a subject but it commands attention and exerts an almost unbounded influence.

Birmingham Railway.—We are sorry to see this company so frequently and so unpleasantly before the public. It is not our wish to increase unfavourable feelings, but we have had almost daily complaints made to us of the high charges, uncomfortable carriages, slow travelling, delays, and gross insolence, both in words and manners, of the company's servants. We have written to the secretary, Mr. Creed, about some of these matters, and believe that the heads of the company mean well—that they would severely punish any insolence brought before them—but, from

the numberless testimonials we have received, we are quite satisfied that things are not pleasant to the public, and that some of the subs act exceedingly ill.

Great Western Branch to Windsor.—A branch from Slough to Windsor is about to be made, with the consent of the land-owners, and, we are glad to add, the concurrence of the heads of Eton College.

Brighton Railway.—On a considerable part of the Shoreham branch the works will be ready for laying the permanent rails by January 1 next. The works at Clayton, with the embankment to Burgess Hill, show evidence of considerable progress. At Balcombe and at Merstham the works are proceeding rapidly, and we understand there is no want of funds for a vigorous prosecution of the whole line.

Birmingham & Derby Junction Railway.—The works on this line are silently but rapidly proceeding.

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

CANADA

Closure of C.P.R. Workshops

An announcement made by the Canadian Pacific Railway Company reads as follows: "After conferences between the company's officers and representatives of its shop employees throughout the system, an amicable agreement was reached that all main shops would be closed for a three-week period, October 24 to November 14, rather than to effect reductions in working forces at the present time." The agreement was reached at a closed meeting at Montreal following a series of discussions between company executives and representatives of the Shop Crafts Federation, of the C.P.R. This shutdown, dictated by reduced earnings, will affect about 13,000 employees.

Approximately 1,500 office workers have already been affected by the "absolutely essential economies" announced in a statement by the company recently. Members of the office staff will take one day off every two weeks until the end of the year, a loss of time equivalent to about 8½ per cent. reduction in pay.

Reduction of C.N.R. Shops Staff

Canadian National Railways closed down shops for ten days on June 24 last and on reopening made a general reduction in staff of 25 per cent. This was calculated to effect a lay off of about 560 men in Montreal, although union sources claim that nearly 800 men were laid off here and about 1,200 men throughout the C.N.R. system. Union men said they knew of no further contemplated reduction among C.N.R. employees at this time. This subject was not broached at a meeting with railway officials within the past few days.

SOUTH AFRICA

Budget Speech of Minister of Railways: Sound Financial Position

In presenting the Railways and Harbours budget to the Union Parliament during the recent session, the Minister of Railways, the Hon. O. Pirow, stated that although the shortfall in revenue during the last three months of the 1937-38 financial year had reduced the expected net surplus of £1,000,000 to one of £320,769, the actual result compared favourably with the budgetted surplus of £6,618. For the fiscal year 1938-39 a gross surplus of £4,712,720 was expected, which, together with the unappropriated net surplus at March 31, 1938, would make a little more than £5,000,000 available for disposal. It was proposed to utilise approximately £1,200,000 of this sum to write down the book value of sundry obsolete or depreciated assets, and to use the balance for strengthening certain funds.

Referring to the training of staff, the Minister said that a committee had been appointed to examine and report upon the method and adequacy of staff training, and the committee's recommendations which were expected shortly would be carefully considered.

Revised Rolling Stock Programme

The administration, he said, recently found it necessary to review its policy in regard to maintaining a sufficient supply of rolling stock. In the past endeavours were usually made when drawing up new equipment programmes to avoid the risk of a portion of the stock lying idle during the greater part of the year. The difficulty experienced in coping with last year's traffic requirements, however, indicated that the rolling stock policy needed revising so as to ensure that an adequate supply of rolling stock would be available to meet reasonable expectations of peak period traffic. That the administration was taking active steps to deal effectively with future traffic needs, in keeping with the new policy, was evidenced by the fact that approximately £10,000,000 worth of rolling stock was at present on order, under construction or authorised, namely:—

	Approximate cost
370 locomotives ...	£4,300,000
760 passenger coaches ...	2,800,000
6,500 goods wagons ...	3,350,000

Total £10,450,000

When this additional equipment was placed in service there should, he considered, be no cause for anxiety when traffic again reached abnormal proportions.

No Immediate New Construction

Referring to railway construction, the Minister said that apart from those schemes already in hand it was not proposed to proceed with any new lines this year, as any proposals of this nature would necessarily have to await the recommendations of the Railway Line Revision Commission. [This was appointed some months ago to investigate and report on all railway lines which terminated in dead-ends, and whether they should be straightened or linked up with adjacent through lines, or whether they were inefficient on account of gauge.]

In conclusion Mr. Pirow referred to the substantial contribution from revenue which had been made recently to the various reserve funds of the administration, resulting in the country's chief transport undertaking being put on an essentially sound basis.

Extension of Airways Services

With effect from November 1 considerable expansion of the South African Airways services will come into operation. With this expansion the South African Airways will become the largest in the Dominions, second only to the Imperial

Airways in the Empire, and among the foremost operating companies in the world.

There will be ten services a week from the Rand airport to Durban with an additional service on Thursday if the flying boat from Southampton is on time at Lourenço Marques and Durban; nine services a week from Durban to the Rand; four return services a week from the Rand to Cape Town via Kimberley, and one return service via Bloemfontein and Victoria West; six services a week from Cape Town to Durban and from Durban to Cape Town; two return services a week from the Rand to Windhoek (South West Africa) and three return services a week from the Rand to Port Elizabeth via Bloemfontein. The present three services a week to Bulawayo and one a week to Kisumu will be maintained, while the Rhodesia and Nyasaland Airways will operate a return service three times a week with Dragon Rapid aircraft.

The new schedules will not only relieve congestion on some of the present services but will provide for later departures from all Union air centres. The route mileage of South African Airways will thus be brought up to 7,430 with a weekly mileage of approximately 40,000. At present the eleven 14-seater Ju. 52's and fifteen 10-seater Ju. 86's are available for service and two Ju. 86's have still to be delivered.

INDIA

Pacific Locomotive Inquiry

When visiting Calcutta the committee travelled by special train from Sealdah terminus on the Eastern Bengal Railway to test the behaviour of an "XB" class engine on that system. The special proceeded to Ranaghat, 45 miles from Sealdah and returned four hours later. On the up journey a maximum speed of 64 m.p.h. was recorded, and on the down run 65 m.p.h. Stops were made at various points to examine the effects of these and approximate speeds upon the permanent way. The committee and the following officers of the railway travelled on the front and in the cab of the "XB" in both directions: Mr. R. L. W. Meehan, Chief Mechanical Engineer; Mr. R. W. Taylor, Chief Engineer, Mr. H. G. Scotter, Deputy Chief Mechanical Engineer, and Mr. G. W. Toogood, Personal Assistant to the Chief Mechanical Engineer.

Departure of the Committee

Before the Pacific Locomotive Committee sailed from Bombay on October 15, Colonel Mount stated, at a press interview, that they had had a successful and instructive tour over the main trunk routes of the country and particularly noted the effects of the monsoons. The committee travelled nearly 7,000 miles, of which about 1,000 miles were covered on the foot-plates of more than 30 locomotives of different classes. They had also visited

13 workshops and running sheds and had made a considerable number of detailed inspections by trolley and otherwise, of the many varieties of permanent way. He expressed the appreciation of the committee of the co-operation they had received from the Railway Board and the railway administrations in connection with their investigations. The committee wished to render all the assistance possible to solve the problem of safe operation of Pacific locomotives in India. More information would be gathered about these types of engines, and the committee would then prepare its report in London.

Derailment near Bhadaura, E.I.R.

The derailment [reported in the news columns on page 706 of our issue of October 21.—Ed. R.G.] of 18 down E.I.R. Punjab express, occurred soon after 4 a.m. on October 16 near Bhadaura station about 429 miles from Howrah (Calcutta). The accident is attributed to sabotage, and it is significant that—possibly as a result of the passage of the engine and front portion of the train spreading the already loosened track—the damage was confined to the last two vehicles, the brake van and a third-intermediate composite bogie. The latter was completely destroyed and the only sign left of it after the accident was a twisted mass of metal which had formed the undercarriage and bogies. The wheels and wooden splinters were scattered about the track; the brake van had left the rails and stood leaning on one side. The other carriages remained on the line, but some of the wheels of the engine were also off the rails. The track was badly torn up for about 400 yd., and the masonry work of a culvert was seriously damaged. Both up and down lines were blocked and it was not until the afternoon that single line working was introduced.

UNITED STATES

Fare Rise a Failure?

Preliminary reports of September receipts by the Eastern railways indicate that the increase in coach fares from 1d. to 1½d. a mile, in force since July 25, has failed to yield any increase in revenues. Passenger receipts of the first railways to report were lower in comparison with 1937. The higher rates were authorised by the Interstate Commerce Commission on an experimental basis and, if they do not succeed by the end of 1939 in yielding greater revenues than the lower rates, they will, presumably, be cancelled.

A Railway Strike?

In the dispute between the railways and their trade union employees, arising from a demand by railway management that wage rates be reduced by 15 per cent., hostilities have been postponed, and the wage reduction along with them, by the appointment by President Roosevelt of an "emergency

board" [as announced in the news columns of our issue of October 21.—Ed. R.G.]. Under the law, the board has the month of October in which to make its investigation and report, and thereafter another month must elapse before either the wage reduction is put into effect or a strike is begun. Testimony before the board was begun by the railways and the trades unions on September 30 at Washington. Reduction in receipts was 20 per cent., thus indicating a recent appreciable amelioration in the depression. On the other hand, net railway operating income in August—namely, net receipts after the payment of taxes, but before the payment of bond interest—totalled but £9 million sterling, or at an annual rate of less than 1·7 per cent. upon the investment. For the eight months, net railway operating income has been only £31 millions, or less than 1 per cent. (See also page 802.)

Increase in Tender Capacities

To increase the efficiency of its freight and passenger locomotives, the Pennsylvania Railroad is building at once 25 new 21,000-gallon tenders for "M-1" class heavy through freight locomotives. The release of the existing tenders will permit of a redistribution of existing modern type tenders among the main line through passenger locomotives, with resulting improvements in the operation and handling of trains.

CHILE

Baldwin Locomotives for State Railways

The State Railways recently received seven Baldwin-built locomotives, each weighing 140 tons, for service on the southern section between Santiago and Puerto Montt.

Funds for Railway Construction

According to information from Santiago, the Minister of Development has asked Congress to sanction the construction of the following new railways. Lanco to Panguipulli, at an estimated cost of 21,000,000 pesos; Osorno to Rupanco, to cost 19,000,000 pesos, and Curacautin to Lonquimay, estimated at 24,000,000 pesos.

ARGENTINA

Grain Sowings for 1938-39. First Official Estimate

The first official forecast of the area sown with cereals and linseed for the agricultural year 1938-39, issued by the Ministry of Agriculture, is as follows:—

	Hectares	Acres
Wheat ...	8,100,000	20,250,000
Linseed ...	2,780,000	6,950,000
Oats ...	1,360,000	3,400,000
Barley ...	320,000	2,050,000

As compared with the previous year, the area under wheat shows an increase of 322,000 hectares (805,000 acres, or 4·1 per cent.); oats an increase of 43,000 hectares (107,500 acres, or 3·3 per cent.); and barley one of 34,000

hectares (85,000 acres, or 4·3 per cent.). In the case of linseed, there is a reduction of 62,000 hectares (155,000 acres, or 2·2 per cent.).

Railway Telegraphs and the Public

The Federal Court recently decided against the Buenos Ayres Great Southern Railway in an action in which that company had protested against the Government Decree passed some time ago, prohibiting the public use of the railway telegraph service except under certain strictly defined circumstances, on the ground that it was unconstitutional, claiming indemnification at the same time for loss and damages which the railway had thereby sustained. Judgment had previously been given against the company by a lower court, this decision being based on a similar action brought by the Rosario and Puerto Belgrano Railway. The Federal Court confirmed the ruling of the lower tribunal, on the ground that the company had recognised the telegraphs concession as being of a purely railway character.

CZECHOSLOVAKIA

Plans for the Future

The Government is losing no time in adapting railway and other communications to the altered conditions of the Republic. Extensive schemes are already being worked out for new lines of railway, new stations, and frontier and customs buildings, required as a result of interrupted communications and revised frontiers. The resultant works are regarded as forming valuable contributions to the relief of unemployment and are expected to be well under way by next spring.

Restoration of Train Services

The restoration of the train services between Czechoslovakia and Germany is receiving close attention. It is expected that restrictions on railway traffic will be lifted almost at once on the main lines, and in particular on those lines which, as a result of the territorial cessions, now pass through German territory. (See also page 805.)

A preliminary agreement between Czechoslovakia and Germany will shortly be signed making special provisions for the lines which now pass through Germany in going from one part of Czechoslovakia to another, as for example the line from Prague via Trebová to Brno. On such lines as these it is expected that what are called "national trains" will be introduced. These will pass through the German areas without stopping. If they should for technical reasons have to stop in German territory, passengers will not be permitted either to enter or leave the trains. Similarly German trains passing through Czechoslovak territory will remain sealed while in Czechoslovakia.

JUBILEE OF THE "GREAT WESTERN RAILWAY MAGAZINE"

During its fifty years of continuous publication, this pioneer magazine has proved a guide for many other railway and industrial house journals

THIS year, so rich in railway centenaries, also marks a jubilee in railway journalism, for it was on November 1, 1888—just half a century ago—that the *Great Western Railway Magazine* came into being. The magazine was a pioneer in what are now known as "house journals" and has maintained continuous circulation since its inception. Incidentally, in the course of its long life it has proved a guide for quite a number of successful house journals connected not only with railways, but also with many other industrial undertakings.

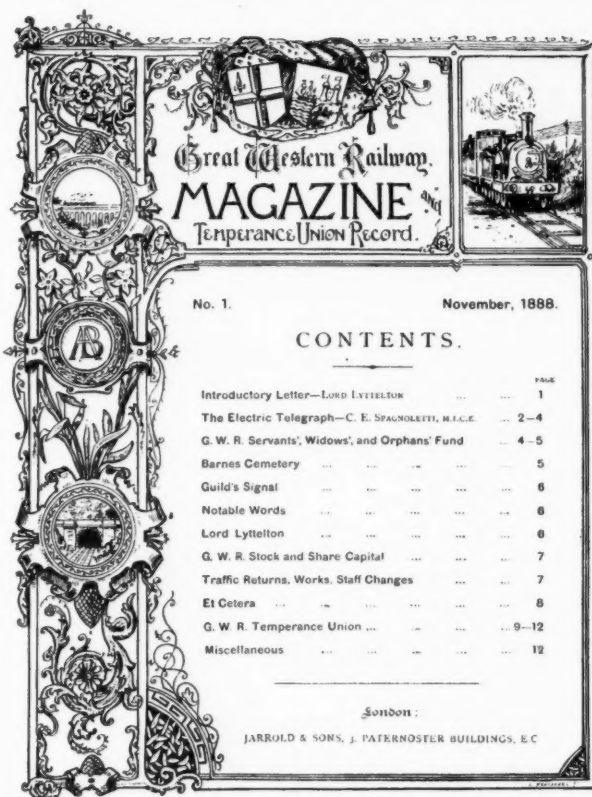
The journal first appeared under the title of the *Great Western Railway Magazine and Temperance Union Record*, and in early years much of its space was devoted to matters concerned with the G.W.R. Temperance Union and its offshoot the G.W.R. Coffee Tavern Company. In passing, it is testimony to G.W.R. employees that they have long since ceased to depend upon the activities of either a temperance union or a coffee tavern company to guide their feet in the paths of sobriety. The first number of the magazine comprised twelve pages of literary matter, together with a loose "presentation plate" consisting of a lithographic portrait of Lord Lyttelton, a Director of the Great Western Railway Company, and President of the G.W.R. Temperance Union, who contributed an introduction which is worthy of inclusion here, as throwing light upon this form of journalism at the time it was written.

"The promoters of this little magazine enter upon their undertaking in a spirit of confidence indeed, and with an assurance that nothing but good can result from it, but they fully recognise the difficulties that lie before them. The countless journals, periodicals, broadsheets, leaflets, and such like, that have fluttered their brief day and then vanished into space—the May-flies of literature—are a warning that the setting on foot of a publication like this is an enterprise that should not be attempted unless, first, it has something to say, and, second, somebody to say it to.

"Now, in our case, we believe these conditions are fully satisfied. We have a ready-made public, forty thousand strong, viz., the employees of the G.W.R., not to speak of their wives and families. This large body of men, having, to a great extent, common aims and common interests, are scattered over a large part of England and Wales, and many of them know little of what is going on in the railway world, except upon such portions of the system as lie within their ken. There is little inter-communion between them; they have few means of giving expression to their wants or sympathies, or of informing themselves of matters and transactions which it would interest and profit them to know.

"Impressed with these considerations, some of the leading members of the Great Western Railway Temperance Union have determined to try the experiment of a *Great Western Railway Magazine*. Their own organisation stands in much need of a publication. Their members, two thousand five hundred in number, are dispersed over as many miles of railway, many at small and remote stations. It would be a great pleasure and encouragement to them to be kept acquainted with the progress of the movement, to read the speeches of the many able and eloquent men who attend the meetings, to note the doings of the various branches, and generally to exchange information and counsel.

"We anticipate marked results from the *Great Western Railway Magazine*, not only in animating and linking together the existing branches of the Great Western Railway Temperance Union, but in pressing upon men's minds the special claims which the cause of Temperance has upon railway men for their support and sympathy, and in thus



Facsimile of the first cover

enlisting the co-operation of many who would otherwise remain indifferent to or unaware of this great movement.

"We shall, in addition, make it our object to publish everything that is being done for the welfare of railway servants in other directions, such as mission work, the proceedings of their various benefit societies, their concerts, fêtes, and entertainments. We shall not meddle with politics, or with subjects leading to excited controversy, for these can be found *ad libitum* elsewhere; but we shall consult the special tastes and interests of 'our public,' and exclude nothing from our columns that in our judgment will inform their minds, quicken their sympathies, and elevate and purify their lives."

LYTTELTON

The first number appeared in the year after the Jubilee of Queen Victoria, and the contents are in striking contrast to those of the up-to-date journal we now know and reflect changes in the life and outlook of readers as well as in journalism during the past half-century. Much of the matter in the first issue was of the "improving" type with that touch of mawkish sentimentality which characterised the "parish magazine" of the mid-Victorian era. These were, apparently, the palmy days of the railway industry, for among other statements in the first number it is observed that the consolidated ordinary stock of the Great Western Railway Company then stood at 150½-151 per centum, whereas at the time of writing the comparable figure is 30. Although the times in which the *Great Western Railway Magazine* made its debut

would probably be summed up by modern critics as stodgy and all that the term "Victorian" now seems to imply, the Victorians themselves doubtless regarded their times as progressive as those of the present generation. The year 1888 marked the invention by Dunlop of the pneumatic tyre, and the "safety" bicycle had just arrived; indeed, it has been said that 1888 was ushered in by the figure of "the new woman mounted on her velocipede."

The magazine seems to have had a more or less uneventful career during its early years, and by August, 1892, it had been reduced to little more than a pamphlet of eight pages. It appears to have had a steady, if somewhat restricted sale among the staff up to 1903, when 2,500 copies a month were distributed. At this period the magazine was by no means a financial success, and assistance was secured from the company. In the early months of 1903 Mr. F. J. C. Pole (later Sir Felix Pole) was appointed Editor, and in the same year Mr. J. C. Inglis (later Sir James) became General Manager of the Great Western Railway Company. These circumstances were destined to have a far-reaching influence on the magazine, and within six months of the new Editor's appointment the circulation was more than quadrupled. The new General Manager became convinced of the undeveloped potentialities of the journal as a staff organ for the railway and shortly afterwards arranged for it to be acquired from the Temperance Union and recognised as the company's official magazine. The magazine took on a new lease of life, new features were soon introduced, and whole style and tone of the journal were gradually brought into line with modern standards. The general format was changed, the size of the pages was slightly reduced, and the number considerably increased. The magazine then went from strength to strength and new contributors were introduced, among whom was Mr. E. S. Hadley of Newport, who, after providing a number of articles on a variety of subjects, began in October, 1905, an educational series

entitled "Railway Appliances and Operations," which proved remarkably successful. Contributions from Mr. Hadley's pen continued to find a place in the magazine from time to time, and in 1912 he was brought to Paddington to act as Assistant Editor.

The magazine had by this time established for itself a firm place in house journalism and was circulating regularly not only among G.W.R. employees, but also among railwaymen and railway enthusiasts all over the world. In the following year, the magazine introduced into this country the Safety Movement, which some time later was so enthusiastically adopted in other quarters. This popular feature consisted of a regular series of articles accompanied by photographic illustrations contrasting the right (safe) and the wrong (unsafe) way of carrying out a variety of railway duties for the safeguarding of life and limb, and so valuable did it prove that it was reproduced in booklet form for distribution among the staff, and circulated widely among railwaymen in this and many other countries. Among a number of other pioneer features was the introduction of passenger train and goods train competitions between the staffs of the various traffic divisions of the railway, and a "Freedom from Accident" competition.

Mr. Hadley became Editor of the magazine in 1919; a position which he held until his retirement last year. He was succeeded by Mr. R. F. Thurtle, who had acted as his assistant for some years and under whose able editorship the *Great Western Railway Magazine* gives every promise of a continued successful career; it is interesting to record that the monthly circulation is now about 48,000. The total staff of the G.W.R. at the March 12, 1938, census was 102,352, so that nearly half the members seem to buy a copy. This month's issue takes the form of a specially enlarged jubilee number containing, among other features, an account of its establishment and development through the fifty years of its existence.

Opening of the North Union Railway

The following account was published in *The Times* of Thursday, October 25, 1838:—

"*Liverpool, October 22.*—The North Union Railway was opened from end to end yesterday. This line connects Preston with the Grand Junction. Shortly after 8 o'clock Mr. Hardman Earle, Mr. J. Hornby, Mr. Theodore Rathbone, Mr. W. Taylor (the chairman of the Preston committee), and several shareholders in the company, started in an open carriage, propelled by their No. 2 engine, manufactured by Messrs. Jones, Turner, and Evans of the Viaduct Foundry, Newton, from Parkside, the place celebrated in railway history as the spot at which the late Mr. Huskisson met his death.

"The entire line from Parkside to Preston measures 22 miles and a half; the first two miles and a quarter are up a slight incline and curve; next comes four miles of dead level and perfectly straight. A steep incline, rising at the rate of one in a hundred, brings the traveller to the town of Wigan, the company's first station on the line. Here a splendid station-house has been erected, alike well adapted for the transaction of the company's business and general public accommodation. The line is carried, by means of an iron bridge, supported by massive pillars of the Doric order, across the turnpike-road leading into Wigan. This commences the Douglas contract, undertaken by Messrs. Mullens and M'Mayor, which extends five miles along the line to Coppull, through some exceedingly heavy embankments and cuttings, in some places full 60 feet deep. In this distance there are two inclined planes, the highest rising in the ratio of 1 in 100. Coppull forms the summit, and here commences the Yarrow contract, which is carried across one of the most beautiful vallies in England. From Coppull to Yarrow there

are inclined planes, two short ones, and the third extending to more than a mile in length, and formed by embankments raised in places more than 60 feet above the natural level. The chief alteration in this line is the wooden bridge across the river Yarrow. It will be recollected by those conversant with railway affairs, that a culvert of considerable extent had been formed across the river, and the embankment placed upon it. The flood of last November caused the river to overflow so considerably as to blow up the arches, and to carry away the embankment to a very considerable extent. The loss to the contractor was estimated at nearly £6,000. In the place of this culvert and embankment a bridge, made of framework, has been erected. It is 73 feet above the bed of the river, 400 feet long, and 82 feet wide; and in its construction more than 30,000 feet of timber was used. The prospect is truly beautiful. On the hill stands Gillibrand-hall, the seat of Mr. Fazakerley, and Chorley church, and in the distance Rivington Pike, or Hill known as a landmark for the inwardbound ships on approaching the port of Liverpool. There are two more inclines between the Yarrow-bridge and Preston, one at Leyland, the other at Farrington; and immediately previous to reaching Preston is a deep excavation, 41 feet, cutting.

"At this place the engine was stopped, and the directors there terminated their trip. The distance from end to end was performed in 45 minutes.

"The directors in their trip were preceded by the No. 5 engine, built by Messrs. Hicks, of Bolton, which, with Messrs. Jones and Co.'s engine, worked admirably.

"The line, it is expected will be open to the public on Wednesday week. The mails are not expected to run upon it prior to the 9th of next month."

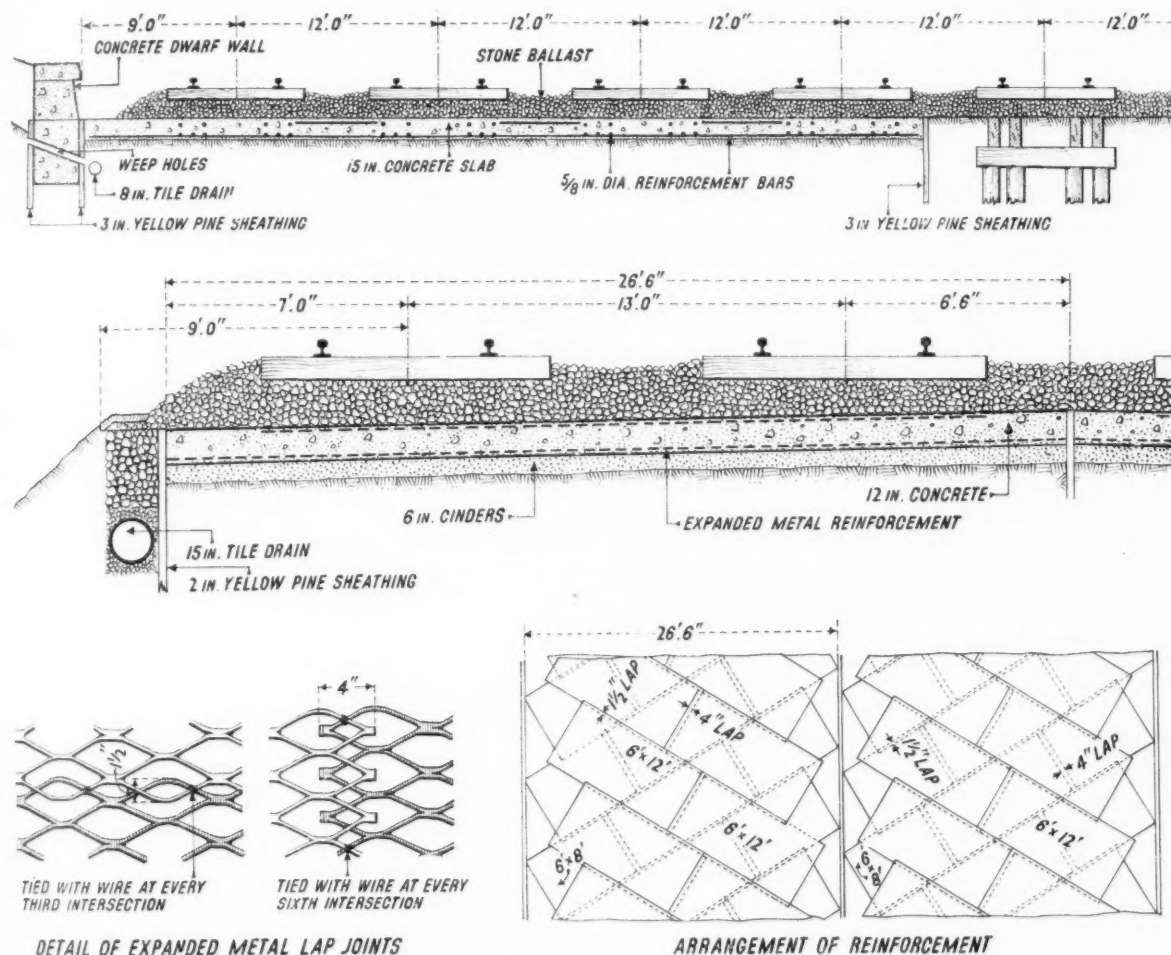
CONCRETE TRACK SUPPORT

Examples of successful treatment of unstable permanent way formations on U.S.A. main lines by concrete rafts

As was recorded in our article in THE RAILWAY GAZETTE of May 27 on the new branch line of the Southern Railway from Motpur Park to Chessington, a concrete track support is used in certain of the clay cuttings. A similar form of carrying permanent way over unstable formation has been in use in America for many years, and we now give a cross-section on the New York Central Railroad in the vicinity of Poughkeepsie on the main line

solved the problem. There are three different lengths in the vicinity, 90, 200, and 410 ft. long respectively. It will be observed from the section that two of the tracks are supported on pile foundations, but this type of reinforcement of the soft roadbed has proved to be much less satisfactory than a concrete slab construction.

A similar type of concrete slab was laid near Staatsburg in 1912, but only 12 in. thick instead of 15 in., and this



DETAIL OF EXPANDED METAL LAP JOINTS

ARRANGEMENT OF REINFORCEMENT

Cross-sections of track on the New York Central Railroad showing reinforced concrete support over weak formation. The top section shows a length put down in 1909 near Poughkeepsie which has proved completely satisfactory. Alongside is shown an experimental pile foundation which has been much less satisfactory. The lower section shows another type of concrete, and details of its reinforcement slab near Staatsburg which has also solved the problem

between New York and Albany. The 15-in. concrete slab is reinforced under each rail and transversely with $\frac{5}{8}$ -in. bars. The underlying material was a blue clay mixed with water-bearing quicksand which under the pounding of traffic caused maintenance difficulties. This type of concrete construction, put down in 1909, has completely

solved the problem. One length is 352 ft. and the other 2,723 ft. long. It will be observed that in each case the average depth of ballast between the concrete slab and the underside of the sleepers is 12 to 15 in. Mechanical tamping is used to maintain the level of the track, in accordance with N.Y.C. standard practice.

AUSTRALIAN AIR SERVICES AND DEVELOPMENTS

Air transport is a much-appreciated service in a country with the physical characteristics of Australia, so that routes can be worked without, or with very small, subsidies

By ALFRED W. ARTHURTON, M.Inst.T.

WHILE at Melbourne on my last visit, I had the privilege of a talk with Capt. E. C. Johnston, D.F.C., Controller General of Civil Aviation in Australia, who kindly furnished me with details of the remarkable development of air services in the various States during recent years, and some information on the work of the Civil Aviation Board. The board was appointed in April, 1936, to be responsible, under the Minister for Defence, for the administration of the Air Navigation Regulations and for giving effect to the Government policy for the further development of civil flying in the Commonwealth.

Pioneer Internal Airway

Australia was the first British Dominion to establish an internal air service, and the first to undertake an international service. One cannot fail to be struck with the suitability of this huge continent for air transport, due to the immense distances from one part to another and to the generally favourable *terrain* and climatic conditions which exist there. These factors have contributed not a little to the remarkable growth of unsubsidised services, which are a feature of Australian air transport probably unequalled in any other part of the world; and they may also account for the relatively low rates paid by the Government to the subsidised services. The amount of these subsidies is rapidly lessening, for whereas at the beginning small machines were subsidised to the extent of 4s. a mile, today first-class modern aircraft are employed at about a quarter of the original subsidy rate. The policy of the Government in developing aerodromes and other ground facilities and in maintaining a competitive spirit by encouraging a number of airline operators, has, however, contributed substantially to the present satisfactory position of air services.

Growing Patronage of Airways

The progress and extensive development of civil aviation activities in the last year or two are also due to the increased public recognition of the value of air transport, assisted by the improved economic conditions now prevailing throughout the Commonwealth. The larger use made by the public of air transport facilities has been due also to the bold policy of many airline operators in introducing bigger and more comfortable aircraft, and in providing greater frequency of service than perhaps the demands of the traffic at the time justified. There is, of course, a danger that this policy may be overdone, and also that excessive competition between the companies may lead to uneconomic conditions detrimental to the industry, to the travelling public, and to the Government desirous of developing air transport on sound lines. Air services are now definitely recognised as strong competitors with the railways. Indeed the opinion seems to be held in some quarters that inter-State travel will all be by air in a few years time, but the Railway Commissioners with whom I talked did not subscribe to this view and were rather in favour of the railways becoming part owners of air services in the same way as has been done in Great Britain.

The route-mileage of Australian air transport services

has increased rapidly during the last year or two. At the end of the year 1935-36 regular air lines were operating over 17,458 miles of route, representing 4,354,168 miles flown per annum. When I left Australia last February the route mileage had increased to 24,390 and the miles flown per annum to 8,574,228. A weekly service has this year been established between Sydney, Papua, and the Mandated Territory of New Guinea—the airline distance between Sydney and Rabaul is 2,522 miles. This service is operated by a Sydney contractor with two De Havilland D.H. 868 aircraft, with an additional machine of the same type in reserve. Several companies also are engaged in air transport in New Guinea itself. Last year nearly 12,000 passengers were carried and some 11,000 tons of freight. A trans-Tasman air service between Australia and New Zealand is also in contemplation.

Medical Aid by Air

I was particularly interested in the "flying doctor" or air ambulance, services, which, I was told, continue to perform their valuable humanitarian work in the outback parts of the continent and are now assisted by a regular grant of £5,000 per annum from Commonwealth funds. Many instances are on record of lives being saved by the medical aid thus made available. Wireless plays a prominent part in this service. Special combined transmitters and receivers deriving power from pedal-driven generators were designed for the use of outback settlers and more of these have now been made available. When a doctor is urgently required at one of these outback stations, probably hundreds of miles from a township, an SOS message is sent out and the doctor arrives the next day, or sooner. The service, I was assured, has made a vast difference in the settlement of districts far away in the bush, particularly so far as married settlers are concerned, as women with families are more willing to live in these isolated spots if medical aid is available when urgently needed. There are now three "flying doctor" services in Western Australia, two in New South Wales, one in the Northern Territory, and one in Queensland. The Queensland service was the first to be established and was instituted in 1928 by the Australian Inland Mission, which supplied the doctor while Qantas Airways Limited furnished the aeroplane and pilot. The latter company has now made available a second ambulance aircraft which has enabled an additional base to be established at Normanton. In the outback districts of Northern Australia a Government medical officer who is also a pilot has been provided by the Commonwealth Government with a Fox-Moth aeroplane specially fitted with an ambulance carrier for going his round.

Scope for Railwaymen

In a continent like Australia, one of the most important arms of defence is the air, by means of which it would be possible to transfer thousands of troops and light defence equipment to any part of the continent within twelve hours. At the present time the ground service is not so good as it should be, but during the past year the Civil Aviation Board inaugurated a comprehensive programme

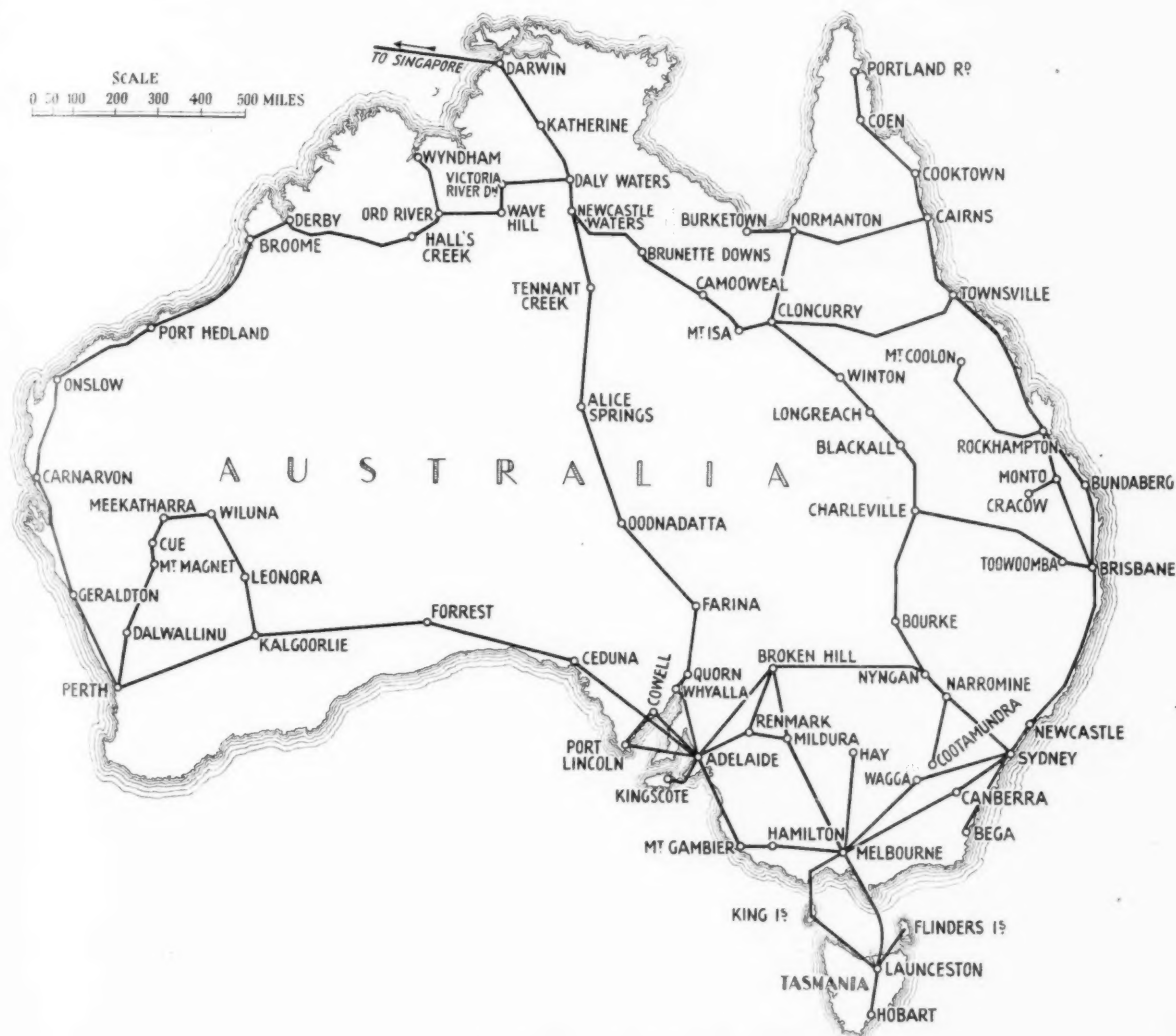
of improvement to the ground organisation provided by the Government along the main air routes. Here, I was informed by a Railway Commissioner with whom I discussed the matter, is where the railways could be of service. Railwaymen trained in safety and in the use and care of internal-combustion engines could very soon acquire a knowledge of aeroplane maintenance and equipment, and railway workshops were available as emergency repair shops for aircraft. This would bring the railways definitely into the sphere of air travel and defence.

Aero clubs now exist in all the States and perform useful work in training pilots and in encouraging an air sense in the younger members of the community. Last year the Royal Queensland Aero Club, in particular, surpassed all previous records in regard to hours flown and licences secured and renewed, and its achievements bear comparison with those of any other similar body in the world. Four gliding clubs, also, have been established at Perth, Brisbane, Melbourne, and Sydney respectively and participate in the Government subsidy for gliding. Air survey and air photography work by civil aircraft, in addition to similar operations by the Royal Australian Air Force, have resulted in important discoveries being made in the

immense territories of Northern and Central Australia; and the existence of unrecorded lakes and the incorrect location of others as shown on maps have been revealed.

Britain-Australia Air Mail for Three-halfpence

No description of Australian air development would be complete without some reference to the Empire Air Mail scheme, the Australian section of which was inaugurated on July 28 by the despatch of the first 1½d. air mail from Southampton. The advantages of drawing together the far-flung Dominions and the Mother-country are incalculable, and speedier communication by ordinary mail will accomplish this. During my stay in Australia it cost 1s. 6d. per half-ounce to send a letter home by air mail, and I well remember having to pay 3s. for one which slightly exceeded the half-ounce. Formerly it took nearly three months to get a reply to a letter by ordinary mail, but under the new scheme, by which all first class mail travels by air, the period has been reduced to less than three weeks. It may be mentioned that under the agreement with Great Britain regarding the Empire Air Mail scheme, the Commonwealth Government retains control of the Singapore—Sydney section of the service.



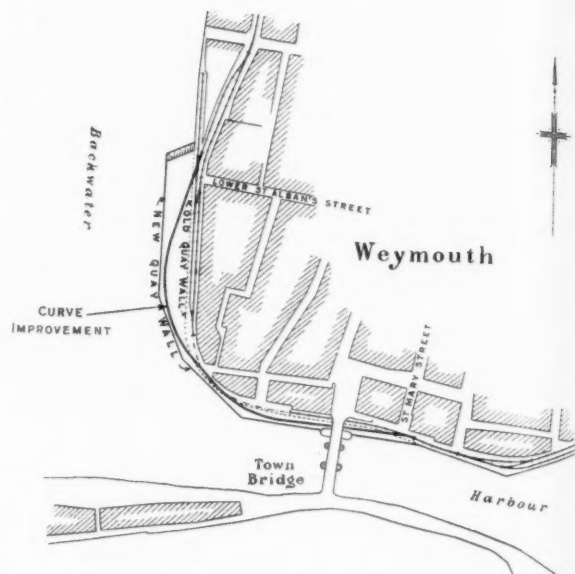
Sketch map showing the Australian air services in operation at June 30, 1937

IMPROVED APPROACH TO WEYMOUTH QUAY

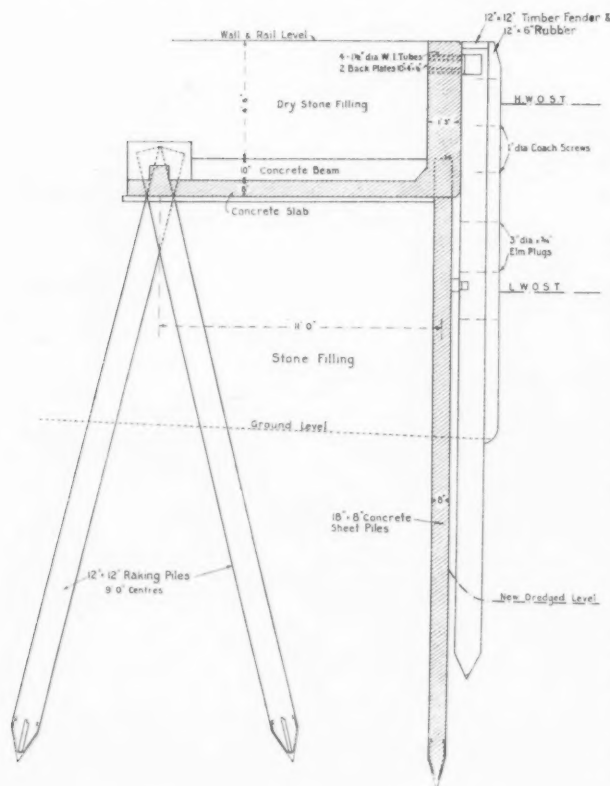
Realignment of the Weymouth tramway on a reclaimed portion of the harbour to secure improved curvature

THE Great Western Railway Company now has in hand at Weymouth a scheme which, when completed, will greatly facilitate the working of passenger traffic to and from Weymouth quay. For many years considerable delay has been occasioned to passenger stock working over the Weymouth tramway, as, owing to the sharp curvature of the line, it has been necessary to detach the couplings of vehicles and substitute special long couplings so as to avoid risk of damage to undercarriages of rolling stock. The work in progress provides for flattening the curve for a distance of about 1,100 ft. from Lower St. Albans Street, passing under the town bridge, to St. Mary's Street, where it joins up with the railway. The reclamation of a portion of the harbour, to a maximum width of 70 ft., is involved, together with the construction of a new quay wall of reinforced concrete sheet piling with a concrete capping. Behind this, filling is to be tipped to the extent of some 22,000 cu. yd. As shown in the accompanying drawing, the sheet piles of the quay wall are being anchored back to two raking piles by means of a flat floor slab.

The Weymouth tramway is part of the undertaking owned by the Weymouth & Portland Railway Company and was constructed by it under the provisions of the Weymouth & Portland Railway Act of 1862, and by arrangement with the Corporation of Weymouth & Mel-



Site of the new quay wall, showing the curve improvement



Typical section of piling and quay wall

combe Regis. It is described in Section 16 of the Act as under:—

"3. A Railway or Tramway to commence by a junction with the Weymouth & Portland Railway and the Great Western Railway at or near the junction of the Weymouth & Portland Railway with the said Great Western Railway at or near a point about 170 yards North of the Great Western Goods Shed, and to terminate at or near the Toll House on the Pile Pier in the said Parish of Melcombe Regis."

Under Section 36 the Weymouth & Portland Railway Company was obliged to complete the authorised works within four years of the passing of the Act, and the opening for traffic actually took place on October 16, 1865, but it was not until July 1, 1889, that the tramway was first used by passengers. In accordance with the heads of agreement scheduled to the Act, the line is leased to the Great Western and London & South Western (now Southern) Railway Companies who are jointly responsible for its management. By arrangement the Weymouth & Portland line is maintained by the Great Western Railway and the train service provided by the Southern Railway, although the G.W.R. works the traffic over the tramway as an extension of its own services. The object of the tramway, which is 1 m. 8 ch. long and runs through the streets of the town, is to connect Weymouth station with the harbour owned by the Corporation, whence the G.W.R. works regular passenger and cargo steamer services to and from the Channel Islands throughout the year. The length will however be slightly increased as a result of the work now being carried out. The tramway was originally laid with mixed gauge-tracks, as was the rest of the Weymouth & Portland Railway, but the use of the broad gauge was discontinued on June 18, 1874.

RESIGNALLING ON CHELMSFORD AND SOUTHEND LINES, L.N.E.R.

Colour-light signals on lines carrying main-line high-speed, seasonal excursion, and residential traffic

THE notable resignalling work on the busy suburban section of the L.N.E.R. (Southern Area) between Clapton and Chingford, described in THE RAILWAY GAZETTE for April 29, 1938 (page 835), has now been followed by two important installations of a somewhat different character. The first is between Shenfield and Chelmsford, on the Colchester main line, which carries high-speed main line trains; the second is between Shenfield and Southend, on the Southend branch, where a heavy seasonal excursion and residential traffic is met with.

The Shenfield-Chelmsford Installation

This work, covering 12 miles of double track and 25 colour-light signals, as seen on the accompanying diagram, was carried out in two stages; the first, opened on October 24, 1937, from Shenfield to Ingatestone, involved the abolition of Thoby signal box and the one-wire block telegraph, and the introduction of colour-light automatic signalling. At Shenfield, where the Southend line diverges from the Colchester line, the home signals were moved out to give greater freedom at the busy junction. The second stage was opened on December 12, 1937. This included the removal of the existing automatic semaphore signals between Ingatestone and Hylands and the abolition of the one-wire block thence to Chelmsford, together with three more signal boxes, namely, Hylands, Crompton's Siding, and Chelmsford Yard. The up refuge sidings



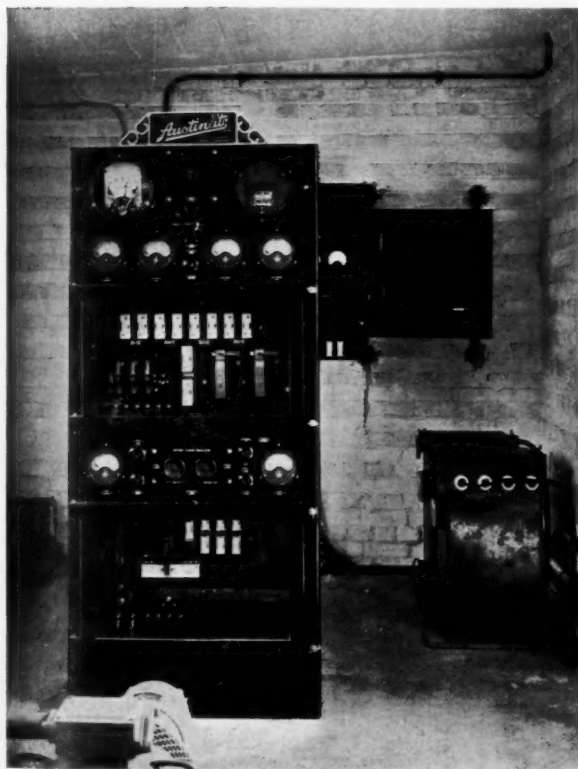
Ground frame, Hockley

at Thoby and Hylands have been removed. The up siding at Ingatestone and down siding at Chelmsford have been converted into reception roads, with the points at the remote ends electrically worked by low-voltage machines. The changeover was somewhat involved, owing to the aerial line wires for the existing automatic semaphores having to be modified and connected to the new light signals on the opening night; certain sections of the permanent way had to be relaid during the early hours of December 12, 1937.

Colour-Light Signals

These are of the 6-volt d.c. searchlight type, approach-lighted from the rear signal, with double-filament lamp. The main filament is 6-watt; the auxiliary one, cut in only if the first fails, 9-watt. Signals Nos. C4, C33, and C36 at Chelmsford are mechanical colour-lights, with wire-operated spectacle and Adlake lamp unit. The three aspects of Nos. C4 and C36 are obtained by using two spectacles and lamp units and suitable slotting apparatus, producing the red and yellow aspects from the top spectacle and the green one from the bottom. These signals are also approach-lighted.

Track-circuits are of d.c. type, fed from a metal rectifier with A.D. primary cell in parallel. The circuit is adjusted by means of resistances so that there is a small discharge from the cell, whether the track is occupied or clear. This arrangement is being extensively tried in the Southern Area of the L.N.E.R. and is held to have several advantages over the trickle-charged accumulator system. It is economical and provides a much greater reserve of



Control panel, Hockley

power should the main supply fail. Location batteries are similarly arranged.

The illuminated diagrams are normally dark, with the colour-light signals and power points indicated in addition to the tracks. Two telephone switchboard lamps, in parallel, are used for each indication. This form of diagram has been found to assist the signalman quickly to appreciate traffic conditions and reduce the eye strain inherent in the older form. It is also an economical arrangement.

All automatic and certain controlled signals are in communication with the signal box in advance by selector telephones. Provision has been made for the adoption, at a later date, of "P" signs, which will be controlled over the telephone circuits.

Power is taken from a commercial supply at Ingatestone and Chelmsford at 230 volts, single phase, a.c., transformed at both cabins to 110 volts and carried thence on aerial lines throughout the sections. Trickle-charged lead acid cells are used for cabin batteries. Protected "ite" type cables, laid direct in the ballast, have been used for the track work; all others are of the single-conductor "ite" class wire.

The Shenfield-Southend Installation

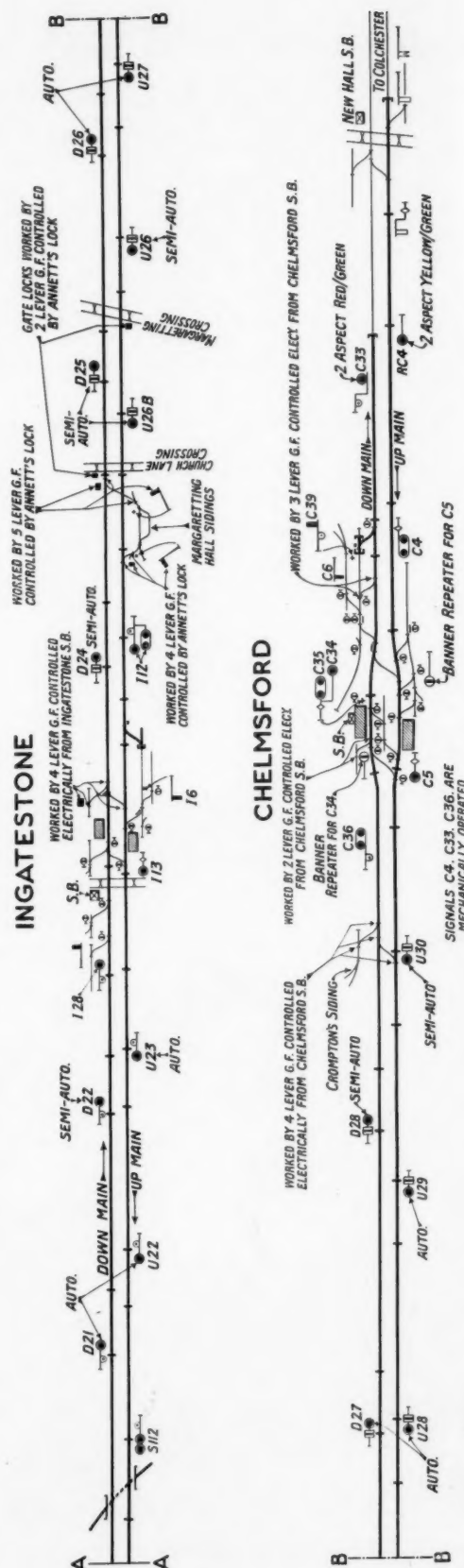
This covers a distance of 20 miles and was dealt with in four stages: (1) colour-light signalling at Southend station, brought into use on February 27, 1938; (2) Shenfield to Billericay, May 8; (3) Billericay to Wickford, May 22; (4) Wickford to Southend, completing the work, June 26. No fewer than nine signal boxes have been closed, resulting in considerable saving in operating expenses and useful speeding up of traffic, with the greater safety provided by continuous track circuit. Both this and the Colchester line installation link up with the Gidea Park to Shenfield light signalling, opened in 1933. Its general layout will be seen from the accompanying diagram and has been arranged to give a three-minute headway on green signals between Shenfield and Wickford and a four-minute one thence to Southend.

Southend Station

The lever frame has been reduced from 110 to 81 levers. The up starting and down home signals have banner-type drawhead signals and route indicators, the route being, in general, proved clear when a drawhead signal is exhibited with a route indication. The down drawhead signal, when shown with a route indication for a platform, indicates to an occupied platform line only, the intervening track circuits being proved clear. Any banner type signal may be cleared without an indication on the route indicator; in these circumstances a driver may proceed to the next shunt or disc signal only. Stencil type route indicators are provided at the starting signals and the roller blind type for the down home, loco outlet, and carriage siding outlet signals. Indicators in the box show that the route desired has been set up before the signal can be cleared, with signals having route indicators. All facing points have electric detection and are indicated on the illuminated diagram.

In some cases the points have to be detected separately. A separate contactor box is then provided and a separate indication obtained between bolt and points, since there are trailing movements over the points which do not require the plunger to be operated. There being considerable selection which, in the ordinary way, would involve a multiplicity of lever contacts, normal and reverse correspondence relays are used, to check up the position of the lever with respect to the point detection, through both point detector relay and lever contacts.

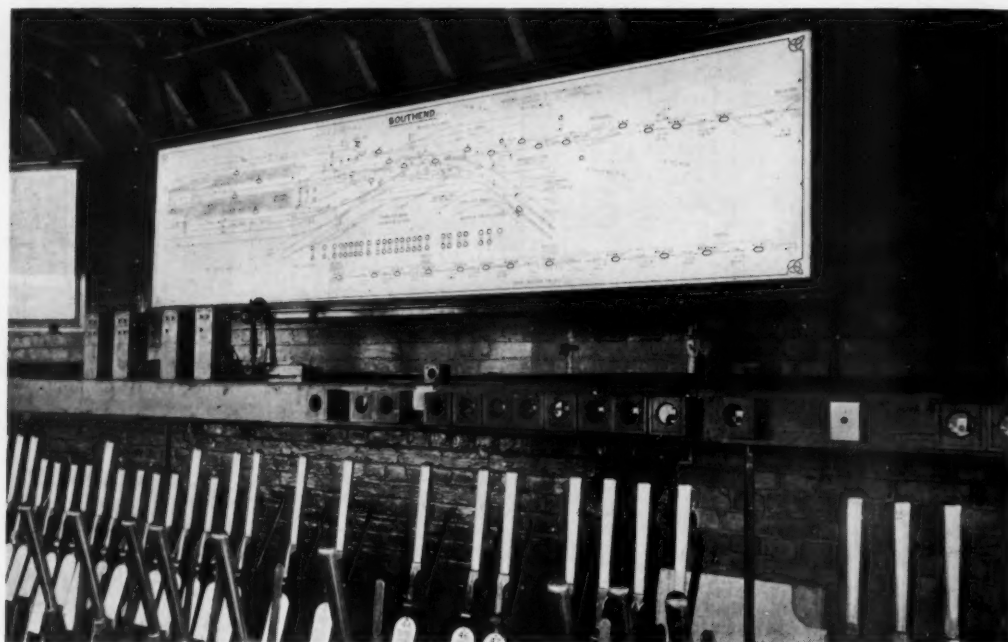
Electrically operated approach-locked signals require the spectacle proved at red before the lever can be restored



Track and signal diagram for the resigalled L.N.E.R. main line between Shenfield and Chelmsford



88



Illuminated diagram in Southend signal box



C36 Mechanical colour-light signal at Chelmsford



Searchlight signal with stencil type route indicator, Southend

beyond the normal indication position. Disengager releases are provided where necessary, the releasing arrangements being controlled through the signal stick relay, to permit of vehicles being left on the approach track circuit. Combined electric lever locks and circuit controllers provide all the protection of a power interlocking. The illuminated diagram here, as elsewhere in the installation, is of the normally dark type and care has been taken to give the signalmen the fullest information regarding traffic movements.

The installation of the new locking frame gave rise to some difficulties. Considerable ingenuity was necessary to accommodate the relays at one end of the box whilst the existing frame remained in use, and allow sufficient space for the new frame to be installed. To expedite the work, the lever locks and circuit closers were fitted to the frame prior to its leaving the shops. The efficient manner in which the work was carried out under somewhat difficult circumstances was proved by the fact that delay to traffic during the changeover period was negligible.

Track Circuits and Cables

In the past, where a power supply has been available it has been considered standard practice to provide a.c. track circuits in preference to the usual d.c. type, but the development of the metal rectifier has paved the way for the ordinary d.c. circuit being employed whilst retaining the a.c. feed, thus affording the advantages usually obtained with a.c. track circuits. This is quite feasible where there is no possibility of the line being electrified, and in this installation all track circuits are of the d.c. type fed through metal rectifiers. All cables are paper-insulated, oil-impregnated, single wire armoured, erected above ground on messenger wire, carried on steel channel stakes spaced at 6 ft. centres. Termination is made inside the location cases, no external disconnection boxes being provided.

Signals

These are of the three- and four-aspect searchlight type, working automatically or controlled by mechanically interlocked levers in the signal boxes, as at Shenfield, Wickford, and Southend. They are of the d.c. 6-volt permanent magnet type, double filament, as on the Colchester line. The mechanisms are all proved in the red position through the track circuit immediately in advance of the signal; its relay being wired as a stick relay. All automatic signals are approach-lighted from the signal in the rear.

There are 66 light signals on this section, namely:—

	Semi-Auto-	auto-	Con-
	matic	matic	trolled
Two aspect ..	—	—	1
Three aspect ..	21	17	13
Four aspect ..	6	6	2

Ground Frames and Level Crossing

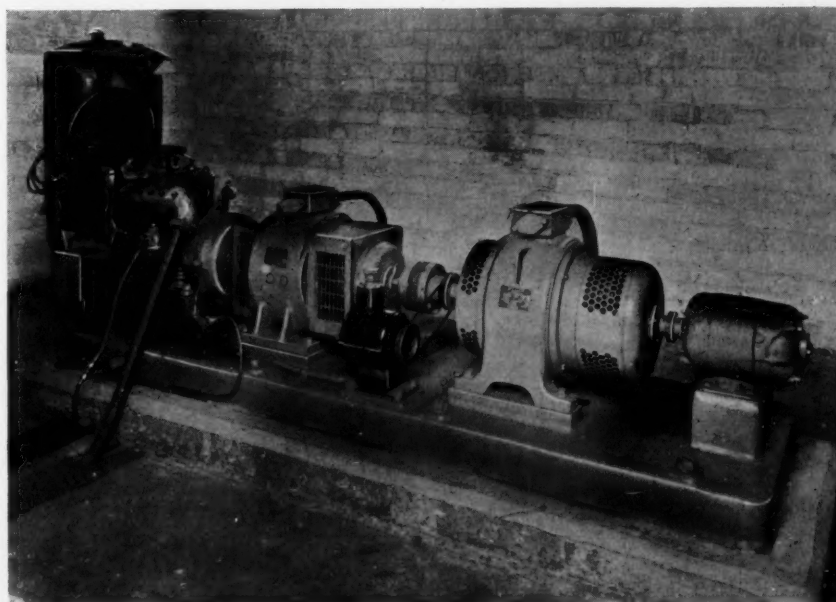
At Billericay, Rayleigh, Hockley, Rochford, and Prittlewell there are main ground frames, controlling connections between the main lines and sidings. These have control on the semi-automatic signal leading over the connections, in

order to protect shunting movements, such signals going to danger as soon as the levers are moved from the reverse position. Whether the latter can be restored fully normal depends upon the occupancy of the track circuits in rear of the signals concerned. If they are all unoccupied, the check lock can be energised and the lever restored fully normal, but if any of the tracks are occupied the release is dependent upon the berth, or overlap, track of the signal in advance being occupied, or on the operation of a time element relay, which prevents a release being obtained until the approaching train has come to a stand. Crossover roads at Billericay, Rayleigh, Hockley, and Rochford are retained, on account of the run-round movements in connection with the stabling of carriage trains, and are worked by subsidiary ground frames, electrically controlled from the main ones. Indicator track diagrams, of the normally dark type, are provided at all the main ground frames, controlled signals being indicated thereon. Single-lever ground frames, controlled by track circuits, are provided at Mountnessing, Ramsden Bellhouse, and Down Hall, to work the siding connections and control the semi-automatic signals leading over the connections. At Wick Lane level crossing there is a two-lever ground frame for operation by the gateman, controlled electrically from Wickford Junction box, the gates being interlocked with Wickford down starting signal No. 8, and semi-automatic signal U.S.31. The approach tracks and semi-automatic signal are indicated in the gateman's hut.

The mechanical frame at Wickford junction was relocated and the Yard signal box dispensed with. The connections from the down siding to up main, and up siding to up main, together with outlet discs, are worked by a six-lever ground frame, controlled electrically from the box. The facing points have electric detection and are indicated on the illuminated diagram. The down starting signals have stencil type route indicators.

Power Supply

Power is taken at Hockley station from the County of London Electric Supply Company, transformed from 400-volt 3-phase to 660-volt 2-phase by duplicate Scott



Standby apparatus, Hockley

connected transformers. The standby equipment is designed to bring into service automatically a 3-kVA., 400-volt 3-phase, 50-cycle supply if there is a 10 per cent. drop in voltage, or 10 per cent. variation of frequency from normal. This plant consists of a four-cylinder petrol engine, directly coupled to a 3-kVA. 400-volt, 3-phase alternator, and on being brought into operation, will continue to run until stopped by hand. It can take the load over within 5 sec. of the main supply failing.

Enginemen's selector type telephones are provided at all automatic and semi-automatic signals and at certain controlled signals which are remote from the signal boxes, with provision for "P" signs to be installed later.

The schemes were designed by Mr. A. E. Tattersall, Signal and Telegraph Engineer, Southern Area, under the

direction of Mr. R. J. M. Inglis, Engineer, to the requirements of Colonel H. H. Mauldin, Superintendent, Southern Area, Eastern Section, L.N.E.R. The Shenfield to Chelmsford installation was carried out by the railway company, apparatus being supplied by the following firms: —

Signals, apparatus cases, etc. . . General Railway Signal Co. Ltd.
Track and line relays . . . Westinghouse Brake & Signal Co. Ltd.

Selector telephones . . . Standard Telephones & Cables Ltd.

The Shenfield to Southend scheme was let by contract to the General Railway Signal Co. Ltd., for the supply and installation of the electrical signalling equipment, the mechanical and telegraph work being carried out by the railway company.



Notable Change-over at Aldgate East Last Sunday

One of the most intricate of the improvement schemes now being carried out on the railways of the London Passenger Transport Board is the remodeling of the lines at Aldgate East, including the provision of a new station with sub-surface booking halls about 170 yd. east of the old station. The work was begun about two years ago, and last Sunday one of the biggest change-overs was accomplished when, beginning shortly after midnight, some 1,400 ft. of track were lowered 7 ft. from the old tunnel level to that of the new station, and 28 hours later the normal train service was resumed using the new station. The new tunnel having to accommodate two platforms as well as the double line, has been constructed round the old tunnel. First the outer walls of the new tunnel were built, and a number of cables and mains diverted. Then the new roof was put on and the tracks supported on trestles while the new floor was prepared. The first picture shows one of the trestles being removed to enable the track to be lowered on to the new formation 7 ft. below. The second picture shows the completed station at Aldgate East ready for use. The lowering of the tracks was, of course, necessitated by the sub-surface ticket offices which had to be accommodated above the tunnel.

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RAILWAY NEWS SECTION

PERSONAL

APPOINTMENT OF L.N.E.R. DIRECTOR

Sir Samuel Strang Steel, Bt., of Philiphaugh, Selkirk, has been appointed a Director of the London & North Eastern Railway Company to fill the vacancy on the board caused by the retirement of Mr. William Whitelaw.

Sir Samuel Strang Steel represented the Ashford Division of Kent as Unionist from 1918 to 1929, during which time he was Parliamentary Secretary to the Minister of Agriculture for two years and Parliamentary Private Secretary to the Parliamentary Secretary to the Treasury. He is a barrister and has been a Forestry Commissioner since 1933. He was created a baronet last June for political and public services, and is a member of the Royal Company of Archers, the King's Bodyguard for Scotland. He served in the great war on three fronts, and attained the rank of Major.

The Minister of Transport has appointed Mr. Hopkin Trevor Morgan, M.C., K.C., the present Chairman of Traffic Commissioners for the West Midland Area, to be the Chairman of Traffic Commissioners for the Western Area from November 1, in succession to the late Mr. A. F. Nicholson, O.B.E. Mr. Trevor Morgan will continue to act as Chairman of Traffic Commissioners for the West Midland Area pending a new appointment to that position.

Mr. John Caldwell, A.M.Inst.T., has been promoted to the post of a Deputy Chief Accountant in the Ministry of Transport. Mr. Caldwell began his railway career in the Accountant's Department of the former Glasgow & South Western Railway Company. In 1920 he was transferred to the Ministry of Transport, where he was the first Investigating Officer of railway accounts arising out of the control of the railways by the Government during the war period. Mr. Caldwell subsequently took over the duties in the Chief Accountant's Department in the Ministry of Transport.

The death is reported, from Mexico City, of Señor Angel Peimbert, President of the Committee for the Liquidation of Railways, and ex-Chief Engineer of the Mexican National Railways.

Mr. N. B. Walton, whose appointment as Vice-President in charge of operation, maintenance, and construction, Canadian National Railways, was recorded in our issue of August 12, has occupied several important posts in the National system throughout Canada, his railway career having extended over 38 years. He was born in Palmerston, Ontario, and joined the Grand Trunk Railway as a clerk and



Mr. N. B. Walton

Appointed Vice-President in charge of operation, maintenance, and construction, Canadian National Railways

stenographer at Toronto in 1900. Later he became Inspector of Transportation for the Great Northern Railway in the United States, but returned to Canada to rejoin the Grand Trunk at Toronto in April, 1908, in the office of the Claims Agent. He advanced to the positions of Trainmaster at Wainwright, Assistant to the General Superintendent at Winnipeg, and Superintendent at Edmonton. On the amalgamation of the National system, Mr. Walton was appointed Assistant General Superintendent at Prince Rupert, B.C., and in 1924 was promoted to General Superintendent at Winnipeg. In March, 1930, Mr. Walton became General Superintendent of Transportation for the

Western Region, and in November, 1936, was appointed Chief of Transportation for the entire system, establishing his headquarters at Montreal and remaining in that post until his present appointment.

Owing to indisposition, Mr. Ashton Davies, the President-elect of the Railway Students' Association, London School of Economics and Political Science, was unable to deliver his presidential address at the sessional inaugural meeting of the association, announced to be held on Monday last. The meeting was accordingly postponed to a date to be announced later.

PRESENTATION TO MR. W. ENVES

At a representative gathering at Victoria station, London, on October 25, a presentation was made to Mr. W. Enves, M.B.E., who recently retired from the position of Stationmaster at Victoria, Southern Railway, which post he had held since 1933.

Mr. J. Bridger, the present Stationmaster at Victoria, was in the chair, and he made reference to Mr. Enves' long and distinguished career with the company, and particularly to his work at Victoria station. Mr. Bridger was supported by a number of speakers, including Mr. Groombridge, Passenger Agent, Victoria; Mr. Dabney, Stationmaster, Guildford; Mr. Lockyer, Assistant Stationmaster; Mr. Moore, Chief Clerk; Mr. Jarrett, Chief Parcels Clerk; Inspector Rochford, Miss Thompson, and Mr. Donald White.

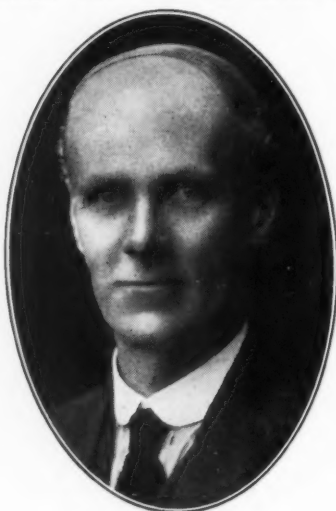
Mr. Enves in his reply expressed his thanks to all those who had subscribed towards such magnificent gifts, and said he would always remember the happy time he had spent at Victoria and the friendships he formed during his work there.

The presentation, which was made by Mr. W. R. Todd of Thos. Cook & Son Ltd., took the form of a gold-mounted wallet from the staff, containing a cheque for £200 from the travelling public. Letters of apology for non-attendance and expressing best wishes to Mr. Enves for a long and happy retirement were received from Mr. Card, Stationmaster, London Bridge; Mr. Trewren, Stationmaster, Cannon Street; and Mr. Scott, Stationmaster, Thornton Heath.

We regret to record the death on October 21 of Mr. George Hepple Cowen, M.I.Mech.E., Chairman and

Managing Director of Geo. Turton, Platts & Co. Ltd.

Mr. J. J. Lovatt, who as announced on October 14, has been appointed Divisional Locomotive Superintendent, York and Hull Districts, London & North Eastern Railway, received his technical education at Rutherford College, Newcastle, and served his



Mr. J. J. Lovatt

Appointed Divisional Locomotive Superintendent, York and Hull Districts, L.N.E.R.

apprenticeship in the Gateshead Locomotive Works of the former North Eastern Railway, where he had experience in the various shops and in the drawing office. He was subsequently appointed Inspector in the Electrical Department. In 1907 Mr. Lovatt was transferred as Inspector to the Dynamometer Car Section of the Chief Mechanical Engineer's Department, and four years later was appointed Assistant Shed Foreman at Sunderland and later at Hull Dairy-coates. Afterwards he had charge in turn of the sheds at Newport, Selby, Tyne Dock, Shildon, and Gateshead

before being appointed to the York district in 1925. During the war Mr. Lovatt served in France with the rank of Captain in the Royal Engineers, and in the last year of the war was Locomotive Superintendent of the Light Railways of the 3rd Army. He was appointed Assistant Locomotive Running Superintendent, North Eastern Area, in 1932, the position he has now vacated.

INSTITUTION OF LOCOMOTIVE ENGINEERS

The Institution of Locomotive Engineers announces that the following elections have been made:—

Member

Mr. F. A. Lemon, Works Superintendent, Crewe, L.M.S.R.

Associate

Capt. A. B. Lockhart, R.N. (retd.), Joint Managing Director, Bassett-Lowke Limited.

Associate Member

Mr. A. W. Crombie, Mechanical Draughtsman, Grade I, Rhodesia Railways.

Transferred from Graduate to Associate Member

Mr. S. R. Roger, Mr. L. V. Odendaal.

The Earl of Derby will preside, and the Rt. Hon. Oliver Stanley will be the principal guest, at the British Electrical and Allied Manufacturers' Association (B.E.A.M.A.) annual dinner at Grosvenor House on November 17.

Mr. R. P. W. Adeane, has been appointed a Director of Ransomes & Rapier Limited. Mr. Adeane is a Director of the Buenos Ayres & Pacific, and the Salvador Railways.

Mr. J. H. Hurst, M.I.Mech.E., has resigned his appointment with Steel, Peck & Tozer Limited, of Sheffield, and has taken over the position of General Manager of the Wycliffe Foundry Co. Ltd., Lutterworth, near Rugby, as from November 1.

INDIAN RAILWAY STAFF CHANGES

Mr. A. Cornish, Officiating Chief Mechanical Engineer, N.W.R., has been granted leave preparatory to retirement, for 2 years 2½ months, as from September 14.

Mr. A. E. Tylden-Patterson, Member of the Railway Board, whose recent arrival in England was announced in our issue of October 7, has been granted six months' leave as from September 14.

In his place Mr. Frank D'Souza, Director of Traffic under the Railway Board, has been appointed to officiate as Member of that body as from the same date.

Mr. J. W. C. Holt has been appointed to officiate as Director in Mr. D'Souza's place.

Mr. E. B. N. Taylor, V.D., Officiating Chief Engineer, N.W.R., has been granted seven months' leave as from September 14.

Mr. G. E. Cuffe, Agent and General Manager, A.-B.R., returned from combined leave on October 2, 1938, when the following changes took place:—

Mr. F. J. Salberg, Acting Agent and General Manager, reverted to his post of Chief Engineer.

Mr. L. F. W. Nolan, Acting Chief Engineer, reverted to his post of Deputy Chief Engineer.

Mr. Q. Z. Husain, Acting Deputy Chief Engineer, reverted to his post of District Engineer.

Mr. A. M. Simms has been confirmed as Deputy General Manager, N.W.R.

Mr. P. D. Low, Officiating Deputy Chief Mechanical Engineer, Electrical, E.B.R., has been granted five months' leave as from September 24.

Mr. A. Whitney, Senior Assistant, Interlocking and Signal Engineer, Great Indian Peninsula Railway, Bombay, has arrived in England on leave.

We regret to learn of the death at Cape Town on September 4, of Mr. A. F. J. Benning, a member of the Central Road Transportation Board of South Africa. Mr. Benning had been

One of the trains on the miniature railway at the Glasgow Exhibition, which closed last Saturday. The locomotives were Hudswell, Clarke diesel-driven models of the L.M.S. "Princess Royal" Pacific type, running on a 21-in. gauge track, and were generally similar to the locomotives used at Blackpool and described and illustrated in our Diesel Railway Traction Supplement of June 14, 1935, page 1196. The trains were fitted with Westinghouse brakes and normally consisted of four or five vehicles each accommodating 30 passengers



one of the original members of the board from its constitution in 1930.

Lt.-Colonel L. Strickland, of Cape Town, has been appointed to succeed the late Mr. A. F. J. Benning as a Member of the Central Road Transportation Board of the Union.

We regret to record the death on October 28 of Mr. John Ferguson, M.Inst.C.E., who was prominently associated with the construction of railways in Scotland. He was born in 1867, and, after serving his apprenticeship in Glasgow as a civil engineer, was engaged in laying out and constructing such important Scottish lines as the West Highland Railway, the Lanarkshire & Dumbartonshire Railway, and the Glasgow Central low-level lines. After becoming a partner of Forman's & McColl, Glasgow, in 1901, he carried out the construction of the Ballachulish extension of the Callender & Oban Railway, the Lanarkshire & Ayrshire Railway, the Paisley & Barrhead District Railway, the Leadhills Railway, the Invergarry & Fort Augustus Railway, the Clydebank dock branch, the Ardrossan harbour extensions, and many other public works at home and abroad. He was also Joint Engineer for the new station at Aberdeen. From 1918-20 he acted as Civil Engineer-in-Chief for

Railways under the Ministry of Transport, and when the grouping of railways was effected he associated himself as a partner with Sir Alexander Gibb till 1931.

The directors of the Provident Mutual Life Assurance Association have appointed Mr. P. H. McCormack as Manager and Actuary to succeed the late Mr. C. R. V. Coutts.

RETIRED RAILWAY OFFICERS' SOCIETY

The report of the Retired Railway Officers' Society for the past year shows that the following retired officers were elected as ordinary members:—

Messrs. J. F. Brook, late District Passenger Manager, L.M.S.R.; W. J. Clayton, late Estate Agent, S.R.; Lt.-Colonel E. C. Cox, late Traffic Manager, S.R.; Messrs. H. E. Daman, late Divisional Engineer, G.W.R.; E. D. Grasett, late Divisional Superintendent of Operation, L.M.S.R.; Colonel W. H. Hall, late District Goods Manager, G.W.R.; Messrs. W. R. Jones, late Divisional Signal & Telegraph Engineer, L.M.S.R.; R. Killin, late General Superintendent (Northern Division), L.M.S.R.; W. H. J. Pyne, Senior Scale, gazetted service, Indian State Railways; R. Rowbottom, late Assistant to Goods Manager, L.N.E.R.; A. C. Stamer, late Assistant Chief

Mechanical Engineer, L.N.E.R.; J. H. Woodhead, late Assistant Chief Engineer (Surveying), L.M.S.R.

Ordinary members elected as life members were:—

Messrs. R. M. Deeley, H. C. Law, Sir Charles L. Morgan.

The following members have died:—

Messrs. A. J. Brickwell, R. F. C. Castleman, T. Chew, Sir Henry Fowler, Lt.-Colonel H. A. Hull, Messrs. R. C. Irwin, M. C. Tait, Alfred Tatlow, Alex. Wilson, T. N. Wylie (Hon. Member).

The Rt. Hon. E. Leslie Burgin, M.P., Minister of Transport, has accepted the presidency of the Railway Benevolent Institution for 1939, and Mr. Gilbert S. Szlumper, C.B.E., General Manager of the Southern Railway, will act as Chairman of the board of management. The anniversary festival of the institution will be held at the Connaught Rooms, London, on March 23, 1939.

Mr. James Clayton, whose retirement from the post of Personal Assistant to the C.M.E., Southern Railway, was recorded last week, was incorrectly described as a Vice-President of the Institution of Mechanical Engineers. Our paragraph should have read: "Vice-President of the Institution of Locomotive Engineers."

Experiences of a Railway Engineer in West Africa

At the meeting of the G.W.R. (London) Lecture and Debating Society on October 27, Mr. D. G. Heslop, a member of the Chief Engineer's Staff, gave a lantern lecture on his experiences in the Gold Coast and Ashanti. Mr. A. S. Quartermaine, Deputy Chief Engineer, presided.

Mr. Heslop first described the colony of the Gold Coast and Ashanti, its geographical and other natural features. It was one of the richest areas in the world, the exports being cocoa, gold, diamonds, manganese ore, timber, and other materials. This wealth had been the basis for the great improvements which had been carried out, such as the five hundred miles of railway, roads, and the modern harbour at Takoradi. The 3½ million natives were divided among the Fantis in the Gold Coast and the Ashantis. Amongst the latter magic and witchcraft were still prevalent and there were many amusing instances of it intruding upon the popular game of Association football.

The main railway line ran from Takoradi for a distance of 163 miles to Kumasi, the capital of Ashanti, and then a further 190 miles to Accra, capital of the Gold Coast colony, with several branch lines. It was a single line worked on the train staff and ticket system. An interesting fact was that the sleepers were all steel. The line was originally constructed between 1900 and 1903 under great difficulties. The denseness of the forest and the revolts

of the Ashantis were great handicaps and the cost of construction of the Sekondi-Kumasi section was £12,000 a mile. At the present time, however, the railway showed a surplus of income over expenditure, but its operation in the conditions of West Africa certainly justified the phrase "The White Man's burden."

Mr. Heslop sailed for Sekondi in 1920 as District Engineer for Railway Construction. In those days landing was a perilous affair carried on by means of a bosun's chair and surf boats but now passengers could land with the greatest ease at the new harbour. The lecturer

described the depression induced by the journey from Sekondi to Kumasi, through a desolation of dense impenetrable forest without any sign of life. He had 80 miles of construction to look after, being out on the works during the day and making drawings at night by lantern light. Clearing the enormous trees from the ground was one of the biggest items in the cost of construction. It was also part of his duties to recruit labour from the north and make arrangements for accommodation. All this work had to be carried on under the attacks of all kinds of pests—mosquitoes, driver and white ants, jiggers, snakes, and, the worst of all, the tsetse fly.

Wigan Resignalling Scheme, L.M.S.R.

A resignalling scheme, estimated to cost £93,000, has been sanctioned for Wigan, L.M.S.R., and will cover an area extending from about 1 mile south to 1½ miles north of the North Western station and from 1 mile east of the Wallgate station to 1½ miles along the Liverpool, and 1½ miles along the Stockport line. There will be three new signal boxes, replacing 12 at present in use. One will be at the south end of the two stations, between the North Western and Wallgate lines, controlling the lines to and from them, with connecting lines and sidings; a second will stand 150 yd. north of the North Western station, controlling the lines at that end; the third will be west of Wallgate

station and control the lines through it. They will deal with about 700 trains a day and numerous shunting movements. Colour-light signals will replace the present semaphores and many points will be electrically operated.

The North Western station at Wigan is on the main line from London and Crewe to Preston and Scotland; it has five through platform lines and five bays. The Wallgate station, practically adjoining, has two through passenger, two platform, and one bay line, and is on the Manchester (Victoria) and Southport line, with a branch to Liverpool (Exchange) immediately north of it.

STAFF AND LABOUR MATTERS

Decision of Chairman of the Railway Staff National Tribunal

Decision No. 7 of the Chairman of the Railway Staff National Tribunal, dated October 27, 1938, deals with a claim submitted by the National Union of Railwaymen "That a signalman called upon to perform work which would be performed by a relief signalman should be paid as, and work under the conditions of relief signalmen."

The Chairman states that he has had regard to the principles inherent in the agreements and the customary practice on the railways as to allocation of work and fixing of wages, and he summarises these in the decision.

As regards signalmen, he states there is a special system of classifying boxes on the basis of marks; and the individual signalman is paid higher or lower according to the classification of the box to which he is assigned. In the course of his work in a given box, or section, or a succession of boxes, he acquires in the normal course of his duties as signalman, and without special training, an experience which enables him to be used in case of emergency in a box other than his own, if it is one in a section of the line with which he has had to become familiar in the ordinary course of his duties. If the box to which he is thus, in an emergency, temporarily assigned is of the same classification as, or of a lower classification than, his own, he receives in accordance with the principles just enunciated his normal rate of wages. If it is of a higher classification he receives the higher rate appropriate to that classification.

The conditions of the signalmen's work are such that it is not practicable to rely upon vacancies being capable always of being properly filled by men who have, in the normal course of their duties in a particular box or boxes, acquired the experience necessary to undertake a signalman's job wherever it may occur. For this reason a special class of relief signalmen has been established. These men receive special instruction and have a qualification, and bear a responsibility, for filling vacancies over a wider area than that for which a signalman allotted normally to a particular box and without such special experience can properly be regarded as available. Vacancies which occur are usually filled by the allocation of such a relief signalman. But sometimes it is necessary, for example because such a relief signalman with the required experience in the area in question is not available, to assign to the vacancy a signalman who is not in the classification of relief signalman, but who happens to have acquired in the ordinary course of his duties the ex-

perience required to work the box in question.

In such a case the Chairman states that the general principles of remuneration which run throughout the service must obviously apply. But the question is whether the signalman should be regarded in such a case as replacing the signalman who is absent from his box through illness, or other cause, and should therefore receive either his own pay or that of the signalman replaced, whichever is higher, or whether he should be regarded as replacing the relief signalman who would usually have been called in to serve as substitute, and therefore receive the same pay as that relief signalman would have received if, as in almost all cases, it would be higher than his own. (The relief signalman's pay is in all cases higher than that of the signalman replaced.)

The Chairman states that his decision on this point is based upon the following reasoning. The relief signalman is paid on the basis of his classification rather than the actual work he does in a particular case, subject to an increase if the work is more responsible than would be normally assigned to one of his class; or, perhaps, as the position might alternatively be stated, he is paid for the work and responsibility involved in the duties of a box for which a man has not acquired the necessary experience in the course of his normal duties as an ordinary signalman but only by a special instruction designed to qualify him for boxes over a wider area. The work and responsibility involved in a box which is one of a considerable number in an area, for any one of which the relief signalman is required to be responsible, are obviously heavier than the work and responsibility in the same box for a man who would only be assigned to it if it were one of the more limited number for which he would become qualified by his normal experience as a signalman engaged in a particular box and boxes and not required to know anything about sections of the line outside the area of these particular boxes.

The Chairman concludes that a signalman relieving in the circumstances stated must be regarded as replacing the man normally working in that box who is temporarily absent from it; and not the relief signalman who would alternatively have replaced that signalman. The ordinary rules of the service therefore apply as if the conditions of signalmen's work were such (as they are not) as to make a special classification of relief signalman unnecessary, and he finds against the claim.

Working Hours on Railways

The International Labour Conference in June adopted a resolution asking the governing body of the International Labour Office to summon technical tripartite meetings to study

reduction of hours in transport with a view to placing the question on the agenda for a future International Labour Conference. The governing body began its meeting in London on October 25, and when the resolution was discussed on October 26, Mr. J. B. Forbes Watson, British employers' representative, said this proposal was just preparing the way for the adoption of an international convention laying down a 40-hour week, or some such figure, for limiting the hours of work in railway transport in those countries which are members of this organisation. It would mean further, he said, a convention on the basis of what was known as the Convention of Principle of 1935, that the reduction of hours was to be so applied that the standard of living should not be reduced in consequence. "I want to make it quite clear," he continued, "that the railway companies of my country are fundamentally opposed to the regulation of hours of British railways by statute."

He asked what was meant by applying reduction of hours in such a manner that the standard of living should not be reduced. "I know what the British workers mean by that," he said. "They have made it quite clear that the phrase means, so far as they are concerned, maintaining for the 40-hour week the same earnings and the same working conditions as existed for the 48."

Mr. F. W. Leggett, British Government representative, spoke in favour of tripartite conferences, but thought that the different divisions into which transport fell would have to be considered separately. There was very little connection between conditions in rail transport and those in air transport. They were bound by the findings of the International Labour Conference to have tripartite conferences for all sections of transport. The question was when the rail transport conference should be held. The conference should be on a wide basis and not be confined to the 40-hour week. Conditions were very special in the railway industry, and the special agreement operating in the British railway industry prevented to some extent the ratification of the Washington 48-hour week convention.

It would be easy to reduce the hours of work on the railways if the amount of casual employment were increased. "Our railwaymen," Mr. Leggett added, "feel that the main subject before the conference should not be so much the reduction of hours where they are most favourable, but the reduction of hours and the betterment of conditions where those conditions are least satisfactory."

The governing body decided, by 17 votes to 7, that a technical tripartite meeting shall be held in March next year to draft the regulations, and the subject therefore will be placed on the agenda for the full annual conference

in due course (see editorial article on page 771).

Wages in Eire—Great Southern

Mr. W. H. Morton, the General Manager of the Great Southern Railways, in presenting the application of the company for a deduction of $7\frac{1}{2}$ per cent. from wages before the Irish Wages Board on October 26, said that from every point of view the present year has been disappointing, if not disastrous. In the first place, he said, the world depression in trade, accentuated by war and the fear of war, which had adversely affected railway traffic receipts all over the world, brought trade in the country to a very low ebb. Moreover, the first four months of the year, during which the Anglo-Irish Trade Agreement was being negotiated, appeared to hold up what remaining business should have been done, traders living from hand to mouth in the hope that a settlement would mean an immediate removal of tariffs. The agreement was completed, but the tariffs would remain until the Prices Commission decided by how much and how far the tariffs could be modified to secure the maximum advantage to Eire in the future, and it was clear that the expected improvement in railway receipts due to the Anglo-Irish Agreement would be slow, tedious, and gradual.

He said the annual receipts fell by no less than £600,000 between 1931 and 1933. Of this enormous loss in receipts £152,925 was due to the penal tariffs imposed by Great Britain on cattle exports from the country. Another important and urgent reason for the present application was that the cash resources of the company had been completely exhausted, due mainly to its endeavour to implement the provisions of the Road Transport Act by the continued acquisition of competing licences, with the ultimate object of developing remunerative road transport services. At the end of 1935 the company decided to acquire some 200 road merchandise licences out of the 1,200 or thereabouts then extant. These 200 were the largest operators on the roads, and the company's estimate of the cost of the compensation was £400,000. The actual cost, including garages and equipment, was £675,000—the compensation in the more important cases being fixed by arbitration. The acquisition of bus services and the partial acquisition of road merchandise licences, he said, had exhausted the company's capital resources and cash reserves, so that no margin remained to meet any deficit on the revenue account for the current year.

In the first half of the year, he said, there were many weeks in which the expenditure exceeded the receipts and the bill for wages and salaries, which in round figures was £50,000 per week, was met only by holding back duly authorised cheques for large amounts which were due to the company's creditors. In these circumstances, when all hope of dividends had disappeared, and the ability of the company to meet de-

benture interest became a matter of grave apprehension, he said, the company of necessity stopped all work of a non-essential nature, postponed every item which could be safely held over, and reduced stocks of materials to the lowest possible dimensions. Notwithstanding every economy it was apparent that the company's liabilities could not be met without a reduction in the largest item of expenditure, namely, salaries and wages. Already all the staff whose salaries or wages were not covered by agreements had accepted a $7\frac{1}{2}$ per cent. reduction, and some 2,000 railway shopmen who were already on short time had agreed to a further reduction in working time of $4\frac{1}{2}$ hours a week, equal to 10 per cent., for a period of three months.

In conclusion Mr. Morton said that the financial position of the Great Southern Railways Company was similar to that of the Great Northern and other Irish companies. Events beyond the companies' control had made their need equally great. Certain accruing obligations which could not be side-tracked must be met on a rapidly approaching date and the alternative to temporary sacrifices easily borne by the whole of the staff was the wholesale dismissal of a large number of men. All the other railway companies in Ireland, as a result of the decisions of the board, had the advantage of deductions from earnings of from $7\frac{1}{2}$ to 10 per cent.

On October 27 the Wages Board announced that it could not accede to the application but ordered that the restoration of a previous $1\frac{1}{2}$ per cent. cut, which the men were to get back early in the new year, should be postponed for further consideration next March. Announcing the board's findings, the Chairman, Mr. W. E. Wylie, K.C., mentioned that the company's representative on the board had dissented from the award. The board, he added, wished him to assure the management of the Great Southern that it had full sympathy in the grave financial position in which it found itself. Although the findings of the Wages Board, on which all the Irish railways are represented, have been honoured by both sides in the past, acceptance of the decision is not mandatory on the company. It can, if it wishes, ignore the board's award and enforce the threatened cut.

N.U.R. Action against the G.S.R.

The action brought by the National Union of Railwaymen and its members against the Great Southern Railways as announced in our issue last week, was heard in the High Court, Dublin, on October 25 and 26, and the High Court Judge refused the application for interlocutory injunctions, which he considered unnecessary and would impede the company in carrying out its work. In announcing his decision the Judge said that one of the principal reasons that weighed with him in refusing the applications was that a great number of the em-

ployees who came under the agreement in question, but belonged to other unions, had already agreed to the change and it would be very difficult for the company if those other men got less sums in wages than the men who belonged to the National Union of Railwaymen.

Power Signalling at Waverley Station, L.N.E.R.

The completion of the power signalling at Waverley station, Edinburgh, L.N.E.R., will be effected during the present month by the conversion of the signalling at the east end to power operation, on Sunday next, November 6; and of the final portion (in the station itself) on November 20. The existing mechanical signal box at the east end comprises 260 levers and for some time held a record for the number of levers in one continuous frame. It will be superseded by a new box erected on the south side of the yard almost opposite the existing one. Opportunity is being taken to dispense with the existing Abbeyhill Junction box, situated 1,056 yd. east of the Waverley East box. A tunnel, 476 yd. long, intervenes between the two, the four parallel roads leaving Waverley converging into two at Abbeyhill junction, while a double junction off the North lines leads to the Leith and Granton branches.

The whole of the lines between the east end of Waverley station and the St. Margarets and London Road Junction signal boxes respectively, will be completely track-circuited. Colour-light signals of the multi-unit type, fitted with side and back lights, are to be provided, with double-sided route indicators to indicate to drivers the platforms into which they have been signalled. All points will be operated electrically from the new box, which will have a 207-lever frame. Train describers will operate between the new box and St. Margarets and London Road Junction boxes.

The scheme was prepared to the requirements of Mr. R. Gardiner, Superintendent, Southern Scottish Area, L.N.E.R., the work being carried out under the instructions of Mr. W. A. Fraser, Engineer, L.N.E.R. (Scotland), to the designs and under the supervision of Mr. A. Moss, Signal and Telegraph Engineer (Scottish Area). The contractor for the whole of the work is the Siemens & General Electric Railway Signal Co. Ltd. The first part of the work, at the west end of the station, was described in THE RAILWAY GAZETTE for November 27, 1936, page 891. Its completion will bring to fruition one of the largest power signalling installations the L.N.E.R. has so far undertaken. Other large schemes are in hand, notably Liverpool Street, Doncaster, York, and Newcastle; their completion will eliminate mechanical operation from all the larger stations on this system.

Glaziers Company Banquet

Colonel Cortez-Leigh suggests stained glass windows for the new Euston

The Master, Lt.-Colonel F. A. Cortez-Leigh, T.D., M.Inst.C.E., M.I.Mech.E., M.I.E.E., M.Inst.T. (late Chief Electrical Engineer, London Midland & Scottish Railway), presided at a Livery Dinner of the Glaziers Company held on Thursday, October 27, in the Grocers' Hall. The Earl of Athlone was the principal guest.

Others present amongst an assembly of 284 included:

Past Master the Most Honourable the Marquess of Carisbrooke, G.C.B., G.C.V.O., the Rt. Hon. the Lord Stamp, G.C.B., G.B.E., the Rt. Hon. the Lord Macmillan, P.C., G.C.V.O., the Rt. Hon. the Earl of Incheape, Lt.-Colonel Sir Henry McMahon, G.C.M.G., G.C.V.O., K.C.I.E., C.S.I., the Rt. Hon. the Earl of Clanwilliam, Field-Marshal the Rt. Hon. the Lord Birdwood, G.C.B., G.C.S.I., G.C.M.G., Past Master the Rt. Hon. the Lord Hirst of Witton, Sir Cyril Hurcomb, K.C.B., K.B.E., Sir Archibald Page, Sir Lacon Threlford, M.B.E., F.C.A., Master Worshipful Company of Shipwrights, Past Master A. R. Upjohn, L.L.B., the Very Rev. the Dean of Winchester, His Excellency the Belgian Ambassador, Sir Herbert Read, G.C.M.G., Mr. Sigismund Goetze, Alderman the Rt. Hon. the Lord Ebbisham, G.B.E., Sir Herbert Morgan, K.B.E., the Hon. Mr. Justice Hawke, the Rt. Hon. the Lord Mayor of Manchester, Sir William Kay, J.P., Sir George Lee, O.B.E., M.C., Sir Harold Hartley, C.B.E., M.C., F.R.S., Messrs. H. L. Thornhill, C. E. Fairburn, M.A., G. Royde Smith, the Rt. Rev. the Bishop P. de Labilliere, Dean of Westminster, Major Sir William Prescott, Bt., C.B.E., Sir Duncan Watson, J.P., M.I.E.E., Col. R. J. Blackham, C.B., C.M.G., C.I.E., D.S.O., Lt. Col. C. Waley Cohen, C.M.G., Messrs. J. S. Pringle, J. A. Kay, and A. H. Cortez-Leigh.

The Glaziers Company was established as one of the City Guilds in 1328, but differs from nearly all the other guilds in representing a branch of art, and not a division of industry. The charter granted to the company by King Charles I on November 6, 1638, incorporated the freemen of the craft into "one Body Corporate or Politique by the name of Wardens and Commonalty of the Mistery or Arte of Glasiers and Painters of Glasse of the City of London." Today the company continues to fulfil the purpose for which it was founded by encouraging the art of glazing and glass painting with the award of scholarships, medals, and diplomas. A Stained Glass Window Committee is in a position to advise public authorities and private individuals desirous of erecting such windows.

The Master having proposed the loyal toast, Lord Macmillan, P.C., G.C.V.O., proposed "The Earl of Athlone."

The Earl of Athlone, replying, compared the activities of the Glaziers Company with the two companies to which he belonged—the Vintners' and the Weavers'. Although founded in ancient times in very different circumstances, all three today were alike in that if they no longer controlled, they encouraged and promoted the crafts for which they were founded. As Chancellor of London University, he thanked the Glaziers for their gift of a window to the Senate House.

Lord Stamp, G.C.B., G.B.E., proposed the toast of "The Company,"

which, he said, was encouraging a great tradition.

Lt.-Colonel F. A. Cortez-Leigh, in reply, emphasised that the glaziers for whom the guild was founded over seven centuries ago were not craftsmen who set glass in windows, but artists who painted on glass instead of canvas. His period of office as Master of the com-



*Stained glass window presented
by the Glaziers Company
to the Worshipful Company
of Skinners for the Chapel of
Tonbridge school*

pany had been a difficult one in the history of England, and a month ago the war clouds seemed so near that he wrote to the clerk saying it might be necessary to postpone the dinner altogether. But thanks to the amazing efforts of the Prime Minister, peace had been assured and they were able to meet without fear of imminent disaster.

Notwithstanding difficulties, the company had made progress during the year, and a week earlier, for the first time in the company's history, a stained glass window presented to the Worshipful Company of Skinners for

Tonbridge School chapel had been dedicated by their Honorary Chaplain, the Dean of Westminster, and unveiled by their past Master, the Marquess of Carisbrooke. The Dean of Winchester had also accepted the presentation from the company of a window for the cathedral. He thought it was a great honour for the company to have erected one of the two stained glass windows in the new London University buildings. Two members from the Livery—the Rt. Hon. Lord Macmillan, and Field-Marshal Lord Birdwood—had been appointed to the Court of Assistants. Granted the blessing of peace, there seemed a great future for their company in promoting and encouraging the art which had done so much to beautify public buildings.

The art of painting on glass opened up a wide field other than heraldic or ecclesiastical. He visualised, for instance, the installation of stained glass windows in the hall of the new Euston station. How well the weary moments of waiting would be beguiled by the contemplation of Sir Harold Hartley, as head of Railway Air Services, with aluminium wings studded with platinum leading the air fleet on its various activities.

The idea could be extended to include Mr. Thornhill in the uniform of Hon. Commodore of the Fleetwood Fishing Fleet and other heads of departments of whom the public heard so much and saw so little. Windows might also show leaders of the various industries established on the L.M.S.R. transport system, for example, Captain Hilton inspecting some steel products of his concern, and so on. No doubt Sir George Lee was now considering how best he could adapt these suggestions to telephone kiosks, also depicting celebrities, past and present, of that most wonderful organisation.

Sir Archibald Page and Sir Cyril Hurcomb, when powerhouses were to be erected, could insist on the installation of stained glass windows—this would relieve the monotony of those who spent hours at night watching the wheels go round and getting a thrill out of their work only when a balloon barrage practice was in progress. In conclusion, Colonel Cortez-Leigh assured Lord Stamp how deeply he appreciated the honour he had done him in proposing the toast, and expressed his gratitude to the company for the way in which it had been received.

COSFORD HALT, G.W.R.—To enable longer trains to be dealt with at Cosford halt, the Great Western Railway is to lengthen the platforms by 200 ft. A new signal box is to be built, and cross-over lines and sidings laid down to facilitate train working. This halt, which is between Altrington and Shifnal, on the Wolverhampton-Wellington line, was opened on January 31 last (as recorded in our February 4 issue, at page 232).

Road Motors for Short-mileage Work

Problems of the short-distance delivery vehicle—Evolution of the mechanical horse—Development of new lightweight unit of this type

On Tuesday last, Mr. John Shearman, Road Motor Engineer, L.M.S.R., presented an interesting and comprehensive paper to the Institution of Automobile Engineers at a meeting held in the Lecture Hall of the Royal Society of Arts, John Street, Adelphi. Mr. Shearman will also read his paper at provincial centres of the institution at Luton on November 15; Leeds on December 14; Glasgow on December 19; and Birmingham on April 25, 1939.

At the outset Mr. Shearman observed that although the operation of commercial vehicles on short-mileage work was not a matter normally discussed in detail before that institution, it had such important effects on design and selection of suitable vehicles that some outline of the size of the problem and the special requirements of a short-mileage operator was essential. There were no published figures, he observed, of the total number of vehicles in Great Britain engaged on short-mileage work, but on the basis of various official figures he deduced that there were upwards of 300,000 such vehicles in this country out of a total of approximately 480,000. Vehicles of between 1½ and 2 tons unladen weight were the most popular class, and in September, 1937, there were 107,266 of such in service; the 2 to 2½-ton class was second with 96,560 vehicles; and these two classes between them comprised 45 per cent. of the petrol-engined goods vehicles licensed. The question of the design and manufacture, therefore, of the short-distance vehicle was obviously of great importance.

Regarding operating conditions, Mr. Shearman pointed out that vehicles for indivisible loads or for full loads of divisible traffic presented little difficulty. The real problem, and the one which many circumstances influenced, was in regard to sundries, and it was with the collection and delivery of miscellaneous goods for traders all over the country that the work for which most of the short-mileage road vehicles were required.

Under the conditions imposed by the collection and delivery of miscellaneous goods, it had been found that, out of a working day, the time the wheels were actually turning averaged slightly over 3 hr., and the average distance covered was in the neighbourhood of 20 to 25 miles. The vehicle was required to perform a very considerable amount of stopping, starting, and idle running, and a typical day's work for a collection and delivery vehicle showed that in 9 hr. 55 min. the vehicle was moving 3 hr. 38 min. only; the engine idling with the vehicle stationary for a total time of 1 hr. 44 min.; and the engine was stopped for the remaining 4 hr. 33 min.

In comparison with the work of a

horse on rounds involving a travel distance of two miles a trip with an average number of 15 calls a journey, the day's travel distance of 10 miles would be covered by a horse team in 3 hr. 6 min., and by a motor in 1 hr. 25 min., the motor thus saving only 1 hr. 41 min. or practically one-fifth of a working day. The author therefore concluded that high maximum speed was of little value in collection and delivery work, but that a rapid getaway was helpful, and reduction of loading and unloading time of paramount importance.

Development of Mechanical Horse

One of the most interesting features of Mr. Shearman's paper was his historical survey of the development of the mechanical horse type of vehicle dating from the latter part of 1929, when the technical and operating officers of the L.M.S.R. felt that it should be possible to produce a mechanically-propelled vehicle which would be able to haul carts and drays, and, by working more economically than standard motor vehicles, replace a certain number of horses. From the outset it was realised that it was essential for the vehicle to be able to manoeuvre as freely as a horse in the confined and congested spaces often found in railway goods yards and elsewhere. At the same time simplicity in design and reasonable maximum speed were required so as to keep the maintenance and running costs low. Accordingly experiments were instigated by the author and carried out in the L.M.S.R. carriage and wagon works at Wolverton. The first "hook up" vehicle used a Morris Cowley motorcar chassis for its motive unit, with a standard 13 cwt. horse cart superimposed on the rear end. Despite manoeuvring deficiency, this vehicle enabled information to be ascertained in regard to suitable engine power, gear ratios, and so forth. The next step, therefore, was the construction of a power unit adapted from a Roberts three-wheel platform truck which showed a remarkable degree of freedom to manoeuvre.

These experiments clearly demonstrated that the foundation has been laid for a very useful type of vehicle and a specification was circulated to leading motor vehicle manufacturers requiring a single front wheel for steering only and power transmitted to the rear wheels as in a normal motor vehicle. In August, 1930, Karrier Motors Limited, produced the first of the famous Cobs driven by a 7-h.p. Jowett two-cylinder horizontally-opposed water-cooled engine with chain drive reduction gear and three-speed gearbox. Early in 1931, Karrier Motors Limited fitted a four-cylinder engine of its own manufacture as alternative. Sub-

sequently another manufacturer entered the field, and in July, 1933, the L.M.S.R. put into service the mechanical horse produced by Scammell Lorries Limited. Such vehicles rapidly became popular with all railway companies, and the growth in total number in service had been continuous. At the end of 1934 there were some 1,395 in railway service, and at the time of preparing his paper the author's records showed this figure had risen to 3,500.

The Light Mechanical Horse

Particular interest attaches to the details announced by Mr. Shearman regarding the attempt on behalf of the railway companies to widen the field of mechanical horse operation, by introducing a new experimental vehicle characterised by extreme simplicity and equipment suitable for only the shortest distances. This new vehicle employs the normal arrangement of a three-wheel tractor and two-wheel superimposed trailer, but the engine of the new unit is radically different in that it is an air-cooled 60-deg. V twin, situated approximately amidships. The bore and stroke are 77.6 mm. and 88 mm. respectively, giving a swept volume of 832 c.c., and the engine develops 15 b.h.p. at 3,000 r.p.m. The engine, clutch, gearbox, and rear axle are all constructed in one unit and anchored at the front by means of a single-point rubber suspension to the frame.

1920 and 1938 Compared

In the next part of the paper the author considered the suitability of the average modern vehicle for collection and delivery work in comparison with the post-war vehicle of 18 years ago. While detailing the technical advances made during this period he concluded that unless and until complete reliability of all units could be achieved, a vehicle built by modern methods and of modern materials, but incorporating more of the accessibility and simplicity of 20 years ago, would provide something nearer the operator's ideal. He also remarked that commercial vehicle practice regularly lagged behind private car practice by an interval of some three to four years.

Mr. Shearman concluded by outlining a suggested design for the ideal short-mileage vehicle—a design in which careful balance was maintained between the conflicting requirements of performance and economy.

The paper was delivered to a crowded meeting and provoked a lively discussion. Mr. F. C. A. Coventry contributed some interesting remarks saying that the long experience of the G.W.R. accorded very closely with that of the L.M.S.R.; broad concurrence with the author's conclusions was also expressed by the representative of the Post Office which, of course, is responsible for a very large fleet of light vehicles engaged on what is in effect the same work as railway collection and delivery.

RAILWAY AND OTHER MEETINGS

Buenos Ayres & Pacific Railway Co. Ltd.

The annual general meeting of the Buenos Ayres & Pacific Railway Co. Ltd. was held at Winchester House, Old Broad Street, London, E.C., on November 1, Mr. J. A. Goudge, C.B.E., Chairman of the company, presiding.

The Secretary (Mr. C. Ellison Rich) read the notice convening the meeting and the auditors' report.

The Chairman, in moving the adoption of the report and accounts, said that before reviewing the results he had with the greatest regret to refer to the severe loss which shareholders and directors had sustained through the death of Lord St. Davids. For 40 years he had been their leader, and those who worked with him could best appreciate the efficient services he had rendered to that company. His (the present Chairman's) colleagues had placed on him the responsibility of doing his best to fill his place.

The board had to deplore the decreased results due to the severe damage to two of the most important crops they carried—wheat and maize. The net result was that they had been able to pay during the past year interest on the first and second debenture stocks (five in all), and also one year's interest on the two stocks next in rank, namely, the Pacific 4½ per cent. consolidated and the Argentine Great Western 5 per cent. debenture stock.

The company's great difficulty continued to be the loss realised in re-mitting home the pesos they earned in Argentina. Since their severe troubles began five or six years ago, out of a debit balance of £4,657,000 debenture and guaranteed interest not earned, the net loss on exchange was £3,949,000, or 85 per cent. That was quite apart from their problems in connection with wages, road competition, and so on. Over and above the risks in the country, they had to face the hardship of depreciation of profits.

It was seven years since they had been able to pay a dividend on their preference stock, and eight years since ordinary shareholders received a penny on their investment. The board laid that statement before the shareholders and the Argentine public, who had a direct interest in appreciating the facts about their railways. He felt sure this simple recital of their position would come as a surprise to many of their Argentine friends, and what was true of their railway was true of all the British lines, although perhaps not in so extreme a degree as with them.

They were looking forward with great interest to the steps the Argentine authorities might take to safeguard their own interests in efficient railway working. It was obvious that such conditions as he had outlined could

not continue indefinitely. A project of nationalisation had been laid before the Chamber by a private deputy, but rumours of the Government's intentions seemed based upon intelligent anticipation. They could only manifest their confidence that they would, as ever before, receive full consideration of their case and a fair adjustment of their difficult situation.

The case of transport in Argentina stood out as one of urgency. It could be broadly said that for the four large Argentine railways in 1934-38, out of their capital of £239 million no less than £106 million, or 44 per cent. received no interest at all. He might be excused for mentioning the mutual advantage that in the past had always been happily realised in the commercial relations between Great Britain and Argentina until the depreciation of the peso reacted so unfavourably on British investors.

They had been cheered by the promise of a co-ordination of transport measure to begin a policy of traffic control as already made effective in other countries, and they hoped it would soon be put into effect. The

existing Railway Law of 1891 prohibited any arrangements between railways to modify competition, but a law to authorise amalgamations and pooling had now been placed before the Chamber of Deputies. A few years ago the B.A. Great Southern and B.A. Western Railways arranged to amalgamate certain departments of management, and during the past year certain steps had been taken between the Central Argentine Railway and themselves. This matter would receive their best attention in the immediate future.

So far they had suffered week by week falling traffics due to crop failures and lost harvests. There was very little prospect of improvement until the new crops came forward in two months' time. There had been sufficient rain to bring the wheat crop forward well, and the area sown in their zone was 15 per cent. more than last year. Only last week a good rainfall had brought them nearer to a good crop of wheat, linseed, and oats. Maize planting and sowing were going on well. They were also experiencing the results of work in endeavouring to extend the range of products in San Juan and Mendoza. Transport of potatoes and onions had gone up from 85,000 to 190,000 tons in four years.

The report and accounts were unanimously adopted and a vote of thanks was accorded to the Chairman.

Buenos Ayres Western Railway Limited

The annual general meeting of the Buenos Ayres Western Railway was held at River Plate House, Finsbury Circus, London, E.C.2, on November 2, Sir Follett Holt, K.B.E., Chairman of the company, presiding.

The Secretary (Mr. N. F. E. Grey) read the notice convening the meeting and the auditors' report.

The Chairman, in moving the adoption of the report and accounts, said that since their last meeting Colonel Woodbine Parish whose family had been closely connected with the political and economic development of Argentina for over a century, and who had himself given as a member of the board long and valuable service to the company, had passed away. To fill the vacancy they had invited Viscount Davidson, a man of energy and on the right side of fifty, to join the board.

It was distressing to have to give such a very poor account of a year which proved to be the worst that the railway had experienced in its half century of existence. Although judging by traffic returns some might even think that the railway had faded away, it was still in existence with its skilled local management and with its track and equipment all in good and solid order. It was the crops that had faded away and left them with so little with which to make both ends meet. Unusually late frosts destroyed the wheat and dry weather subsequently destroyed the maize.

The part of their zone known as the Pampa was peculiarly exposed to drought, but last year they were hit from end to end. Not for forty years, when the line was only one-third of its present length, were less cereals carried, the tonnage reaching only 450,000 against the million of the previous moderate year. The total of general goods carried was the lowest since 1905 when the system was one-half the size it now was. The shrinkage of revenue directly through cereals and indirectly through the general impoverishment of the producers whom they served, was heavy. The loss of crops was not only in their area but proved a disaster to the Republic, which suffered a severe setback in its exports and finances. This effectively destroyed for the time being any hopes of securing a better exchange and improved working conditions. The management did all that was possible to restrict working expenses, and although handicapped by the rise in the cost of fuel and materials, succeeded in obtaining a reduction of £80,000, leaving the balance on operating at £314,000, or 41 per cent. less than in the previous year. In order to cover the debenture and note interest £100,000 was transferred to net revenue account from the general reserve fund, but unfortunately the financial position did not permit of any payment being made to the preference stockholders.

Beyond the fact that roads continued to be extended and improved, there was no material change as regards road competition, except that so far it had been found that the most efficacious way of dealing with it was to improve services and to adjust rates and fares. As further inroad upon their traffic had been made much more difficult, a halt appeared to have been called to the number of competitors and in some directions traffic that had been lost had been regained. As far as road legislation was concerned the organisation to work the Transport Act, passed two years ago, had now been completed, and it was expected that road users would now be called upon to conform to the new Law and that overlapping between railway and road services would be at least curtailed.

Shareholders had no doubt heard of rumours that the Argentine Government was planning a policy for the future of the privately-owned railways. Although no concrete proposals have been made their advices are that there was no doubt that the Government, whilst being anxious to find a means to improve the position of the railways, was also desirous of evolving a plan to provide for their ultimate acquisition by the State. They could take no exception to a policy of nationalisation, as it was the board's view that the people of the country who benefited so largely from the railways should at least share in the heavy responsibilities of their finance and risks. The British-owned railways deserved well of the country; it should be recalled how they went through the then desert lands to Cordoba and Tucuman, to Mendoza and the Pampa, to the mud flats of Bahia Blanca, and in a national emergency to Neuquen, and then gave Entre Rios, Corrientes, Misiones, and Paraguay the railway connections they so urgently needed. It was true that had the Argentines at the time possessed the trained men and the capital or the credit, they could have built these railways for themselves, but they had none of these things. It was equally true that if they had had the money and had spent it on building the railways, their present national debt would have been more than doubled. Up to a few years ago the beneficial result of all this capital and enterprise was shared alike by Argentine and Briton, but now the lion's share of the profit in the shape of the use and services of the railways was Argentine and the Briton's share had become microscopical. It was these same railways of British ownership which still enabled Argentina not only to produce but to export to the United Kingdom and to receive payment for enormous quantities of wheat, maize, and meat, and of a value far in excess of anything Argentina could buy back in return. The whole position therefore had become completely out of balance, and it was to be hoped that it would be adjusted with that goodwill and

understanding that have been for many generations the marked feature of the association between Great Britain and Argentina.

As regards the traffic outlook, a message received from the Director General stated that cattle, sheep, and wool traffic was expected to be main-

tained on the same level as last year, good conditions prevailed in the Colonia Alvear fruit zone, and subject to no exceptional weather appearing before mid-December crop prospects were bright.

The report and accounts were unanimously adopted.

Bengal Dooars Railway Co. Ltd.

The forty-eighth ordinary general meeting of the Bengal Dooars Railway Co. Ltd. was held at the offices of the company, Gresham House, Old Broad Street, London, E.C.2, on November 2, Mr. G. Anson Bayley, Chairman of the company, presiding.

The Secretary (Mr. F. J. Horne) read the notice convening the meeting and the auditors' report to the members.

The Chairman, in moving the adoption of the report and accounts, said that as was the usual custom, he proposed, with the permission of the meeting, to take the directors' report and accounts for the ended March 31, 1938, copies of which had been posted to every stockholder, as read.

He ventured to suggest that, in the adverse conditions under which railway companies in all parts of the world had laboured during the year under review, the results of the working of this railway, which he had much pleasure in presenting, were not unsatisfactory. Coaching, goods, ferry service, and miscellaneous earnings, all showed increases.

The improvement of Rs. 14,881 in Coaching Traffic was chiefly due to an increase by 52,871 in the number of passengers carried. The increase in Goods Traffic, which amounted to the substantial amount of Rs. 1,96,749, was accounted for by greater movements in the carriage of practically all commodities, due to a general improvement of conditions in the district. Fuel carried showed an increase of Rs. 76,419, due to larger purchases by the tea gardens in anticipation of a prospective rise in the price of coal and a higher rate of production at tea gardens, and tea an improvement of Rs. 70,107, due to the increased tea quota; the lesser increases being in carriage of wood, Rs. 14,003; metals, Rs. 9,700; food grains, Rs. 5,779; tobacco, Rs. 6,972; jute, Rs. 4,965; and all other commodities showed a net increase of Rs. 8,804. The ferry service showed the satisfactory increase of Rs. 7,806, or 31 per cent.

When he addressed the meeting in November last year, he referred to an inquiry which had been instituted into the methods of the working of their railway and which it was hoped would result in a reduction of their working expenses. Since then this question had received the undivided attention of the board, and he was pleased to say with satisfactory results, inasmuch as the percentage of working expenses to gross earnings had been reduced by 3.69, i.e.,

from 63.52 per cent. in the previous year to 59.83 per cent. Working expenses showed an increase of Rs. 68,372, in the main due to non-recurring items of expenditure. In this connection he had again to point out that there were limits to economies and that such savings as might be effected must be offset by expenditure on replacements, locomotive repairs, and so on—expenditure which had now become imperative.

Dealing with the net revenue account (No. 7), the Chairman said that after making allowance for Indian income tax and super tax, that Account showed aggregate earnings of £55,797 as compared with £46,141, an increase of £9,656, which with the balance brought into the accounts from the previous year gave a total of £110,149. From this sum there had to be deducted the payments of the preference stock dividend for the year, amounting to £14,400; the payment of a 2½ per cent. interim dividend on the ordinary stock, £10,000; and reserve for British income tax, £2,500; which left a balance of £83,249 to be dealt with. Of this amount the directors had carried £10,000 to the credit of reserve account and now recommended the payment of a final dividend of 4 per cent. on the ordinary stock, making 6½ per cent. for the year, which would absorb £16,000 and leave a balance of £57,249 to be carried forward.

With regard to road competition, a body entitled the Western Dooars Motor Association had been inaugurated, with the object of securing a much stricter control over road goods traffic and the overloading which was necessary to secure paying loads at the rates now charged. It was hoped, in combination with the improved police supervision, this would make it impossible for the railway's competitors to maintain the existing low rates. However, it was not yet possible to say to what extent this movement would prove effective. There was nothing further to report regarding the Wedgwood Inquiry Committee recommendation that railways should be given powers to develop road transport, to which he referred in his last address, beyond that the subject was still under the consideration of the Government of India.

He was pleased to say that the current year had so far been a comparatively uneventful one, although during June and July, 1938, the erosion of the Teesta River at Domohani at one time caused some anxiety. Fortunately, the main stream, after cutting in to within

900 ft. of their main line, swung off in the opposite direction, and the Domohani channel was now silting up. Some additional protective works north of Domohani were necessary, but there were definite indications which justified the hope that the heavy expenditure which had for so many years been borne by the railway in protective works would be decreased in the future.

He was pleased to be able to report that their traffic returns for the current year were well maintained. As it was desirable that closer touch should be maintained with the railway, it had been arranged that he (the chairman) should visit India during the winter to inspect their property and to discuss certain matters with the Manager, and he would hope to report the result of this inspection next year. In conclusion he wished to record the board's appreciation of the efforts generally of the staff in all departments in India and of the London office staff.

The Chairman then moved: "That the report of the directors and the audited statement of accounts for the year ended March 31, 1938, now presented, be and they are hereby approved, confirmed, and adopted."

Sir A. Kay Muir seconded the motion.

There being no questions, the Chairman put the resolution to the meeting, and it was unanimously carried.

The Chairman then moved: "That a final dividend of 4 per cent. on the ordinary stock of the company for the year ended March 31, 1938, subject to income tax, making, with the interim dividend of 2½ per cent. paid on March 23, 1938, a distribution of 6½ per cent. for the year, be and it is hereby declared to be paid to the holders of

ordinary stock standing on the registers of the company on October 20, 1938, and that warrants for the dividend be issued on November 3, 1938."

Colonel W. R. Izat seconded the motion, which was carried unanimously.

Sir A. Kay Muir moved the re-election of Mr. G. Anson Bayley, the director retiring by rotation, and the resolution, seconded by Mr. J. A. Tassie, was unanimously carried.

Mr. F. J. Horne moved that Messrs. W. A. Browne & Company be elected

as auditors of the company for the ensuing year at a remuneration of 70 guineas.

Colonel W. R. Izat seconded, and the motion was carried unanimously.

A hearty vote of thanks to the company's Agents in Calcutta, and to the Manager and his Staff in India was moved by the Chairman, seconded by Colonel W. R. Izat, and carried unanimously.

The Chairman then declared the meeting closed.

South Indian Railway Co. Ltd.

In our report last week of the annual general meeting of the South Indian Railway Co. Ltd., curtailment of the Chairman's (Sir Ernest A. S. Bell's) speech to the shareholders laid certain of his remarks open to some misunderstanding.

Regarding road services the Chairman stated that the board was giving earnest attention to the question of running its own motor services. As a beginning proposals had been formulated and submitted to the Railway Board for the inauguration of road motor services between Coimbatore and Satyamangalam in the Coimbatore district, and between Theni and Cumbrum in the Madura district. Both routes would be feeders to the railway. The proposed lorry services would not involve large capital outlay, and it was expected they would show a good return. In addition they would provide the administration with experience which would prove of great value in considering the extension of road motor transport by the railway. It

was hoped to receive the Railway Board's approval shortly.

On previous occasions he had mentioned the question of running diesel railcars, either as supplementary to or in part substitution of steam trains. It had, however, been found that they were very much more costly to provide than had been at first supposed, and it was very doubtful if they would be a commercial success. The directors now considered that development of road services, possibly in partnership with existing road traction companies, was likely to prove more remunerative as a supplement to train services.

Working expenses had increased by just over Rs. 11,00,000; there was an increase of Rs. 8,26,881 in ordinary working expenses, and of Rs. 2,82,000 on account of renewals and replacements. The increase in ordinary working expenses was due chiefly to fuel.

[Incidentally, the surplus profits figures we mentioned last week were for 1937-38 not for 1936-37 as then stated.—Ed. R.G.]

Accident at Aberdeen Joint Station

Colonel A. C. Trench conducted an inquiry on October 18 into the collision which occurred at Aberdeen Joint station, on October 7, when a locomotive was being backed on to a train; some 38 persons were injured. It was ascertained that the vacuum brake apparatus on the engine was not in proper working order.

The Stationmaster, Mr. J. Davidson, said he saw the locomotive approaching and estimated the speed as 20 to 25 m.p.h. He was about to hold up his hands when the collision occurred. The speed appeared to be increasing as the engine passed him, and when he spoke to the driver later the latter told him the brake would not work. In reply to a question whether he was steaming the driver said he was in reverse gear.

Driver F. W. Chapman said he had 20 in. of vacuum at the sheds, but did not then apply the brake. At Denburn box outer home he found the brake would not work and he stopped at the box by reversing. He was then shown a green hand signal. Half way between the box and the train he

realised he could not stop and put the engine in reverse gear, telling the fireman to apply the hand brake, which did not seem to check the running much. He now appreciated that it was risky to have gone on after knowing something was wrong with the brake. It was his first experience of such a failure.

Fireman W. Reid generally confirmed this evidence.

Another driver, G. W. Page, had worked the engine from Monday, October 3, to Thursday, October 6, the day before the accident. On the latter day he found the brake, on the engine alone, weak, but did not think it justified booking it as faulty. When he handed over to a relief driver he told him not to risk too much with the brake. The relieving driver, B. H. Tough, said he thought adjustment of the brake rigging was required and asked for that to be done.

Fitter J. Low said he adjusted the brakes, as requested; those on the tender needed no attention. That was on the afternoon of the collision. Defective vacuum brakes were very rarely

found. The staff conducted examinations regularly independently of drivers' reports.

Colonel Trench, concluding the inquiry, intimated that his findings would appear in due course. Mr. J. G. Singer, Traffic Superintendent, Northern Scottish area, L.N.E.R., expressed the company's sympathy with those injured in the accident.

Railway and other Reports

Eastern Counties Omnibus Co. Ltd.—This company, which is controlled jointly by the L.N.E.R. and L.M.S.R. companies and by Tilling & British Automobile Traction Limited, paid on November 1 an interim dividend of 3 per cent. free of tax. This is the first interim paid by the company.

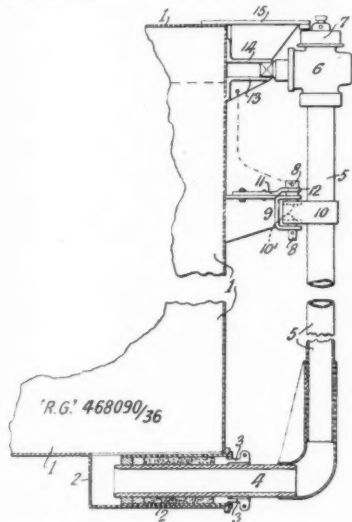
Lightalloys Limited.—A final dividend is being paid of 1s. 1½d. a share, making 1s. 9d. a share for the year ended June 26. The directors also recommend the issue to those shareholders whose names appear on the register on November 1 of bonus shares in the proportion of one share for every two shares held.

ABSTRACTS OF RECENT PATENTS*

No. 468,090. Tank Wagons

A. J. Ransford, of 24, Southampton Buildings, London, W.C.2; a communication from D. R. M. Yates of Iraq Railways, Shalchiyah, Baghdad, Iraq. (Application date: April 14, 1936.)

In storage or transportation tanks of the kind provided with means for emptying by gravity, a delivery pipe is provided which passes through a suitable packing gland into a sump or the like at the bottom of the tank, the pipe being provided at its delivery end with a cock or cap. As shown, a



swivelling delivery pipe 5 is provided with one end 4 passing through a packing gland 3 into a sump 4 arranged at the bottom of the tank 1. The delivery end of the pipe 5 is provided with a cock 6 and a cap 7, and the pipe 5 is supported in a vertical position when in its inoperative state, with the cap 7 and cock 6 above the liquid level in the tank 1. The pipe 5 is supported in its vertical position by means of a pin 8 passing through apertures in coacting brackets 9, 10 on the tank and pipe respectively, and a pivoting bracket arm 11 is riveted to the bracket 9. Special brackets 13, 14 are arranged to embrace the squared end of the cock 6 in the position shown to prevent its operation, and an extension 15 of the bracket 14 prevents removal of the cap 7.—(Accepted June 29, 1937.)

No. 472,793. Weighing Apparatus

D. M. Livey, of 47, Victoria Street, Westminster, London, S.W.1. (Application date: February 3, 1937.)

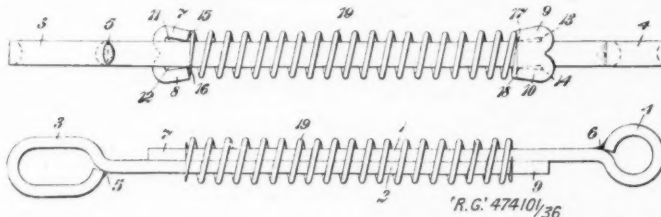
This is a weighing apparatus comprising a ram interposed in the track at track level and a hydraulic system

connected to the working cylinder of the ram. A suitably calibrated pressure gauge is included in the hydraulic system and this records the total pressure on the ram, which is freely connected by bridge rails to the adjacent track system. The gauge may be calibrated in tons, hundredweights, and pounds, and the apparatus will preferably be duplicated in the two rails of the tracks and in transverse alignment so as to obtain at one reading the total loading on the two wheels of one axle.—(Accepted September 30, 1937.)

No. 474,101. Shock Absorbers for Signal Wires

L. Wynn-Williams, B.Sc., of Haughton Bridge Works, Darlington, Durham. (Application date: August 20, 1936.)

This is an improved device for relieving sudden tension in signal wires. Two drawbars 1, 2 are provided with eyes 3, 4 which are formed by bending round and welding one end of each of the bars. The drawbars, on the ends remote from the eyes, are sawn or split axially for a short distance, and the portions 7, 8 and 9, 10 upon either side of the saw cuts or splits are opened outwardly in a gentle curve and bent back towards the main portion of the bar. The spaces 11, 12 and 13, 14 included between the inner surfaces of the bent back portions and the main



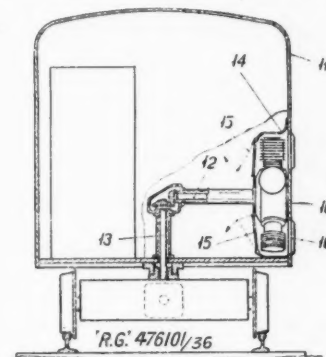
part of the bar are there filled up with welding metal, in such a manner that the welded bent back portions secured to the main part of the bar form rigid stops. A helical compression spring 19 is arranged loosely around both of the drawbars and extends from the inner end of the stop on one of the drawbars to the inner end of the stop on the other drawbar.—(Accepted October 26, 1937.)

No. 476,101. Rail Motor Vehicles

Závody Tatra Alscioud Společnost Pro Stavbu Automobilů a Železničních Vozů, of Kartouzská 200, Prague Smichov, Czechoslovakia. (Convention date: August 22, 1936.)

This invention relates to rail motor vehicles provided with radial cylinder engines. In the arrangement shown the radial engine 10 is situated on the inside of the lateral external wall 11.

Leading from the engine to the bogie of the vehicle is an angle drive and shafts 12, 13. 14 is an inner cover for the engine, provided with closable



apertures 15, facilitating access to the principal parts of the engine even while travelling. The outer wall is provided with grid-like apertures 16, permitting the admission of cooling air to the engine.—(Accepted December 1, 1937.)

No. 477,333. Driver's Control Device for Brakes

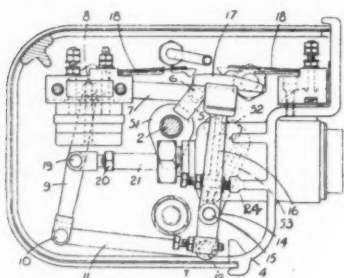
A. G. Kershaw, and Westinghouse Brake & Signal Co. Ltd., both of 82, York Road, King's Cross, London, N.1. (Application date: June 24, 1936.)

In a driver's control device for fluid pressure brakes, which is adapted to provide a first stage in which the

control is electric and self-lapping, and a further stage in which the control is pneumatic, means are provided in which at the beginning of the further stage the electric control mechanism is automatically set to the lap or neutral position so as not to interfere with the pneumatic control. An emergency position of the control handle may be provided in which both the electric and pneumatic controls are effective. The device shown is similar to that described in Specification 467,215, and comprises a floating lever 9 connected by link 7 to an arm 5 on the shaft 2 of the driver's handle; by a link 11 to an arm 13 of a contact lever; and to a link 21 slidable in the rod of a piston which is subject to the brake cylinder pressure. The contact lever pivoted at 15, has an arm 16 carrying a contact 17 adapted to engage fixed contacts 18 connected to application and holding valves. The shaft 2 also carries a rotary slide valve by which the brakes may be applied and released during the further range

* These abridgments of recently published specifications are specially compiled for THE RAILWAY GAZETTE by permission of the Controller of His Majesty's Stationery Office. Group abridgments can be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2. either sheet by sheet as issued, on payment of a subscription of 5s. a group volume, or in bound volumes, price 2s. each, and the full specifications can be obtained from the same address price 1s. each.

of movement of the handle independently of the electro-pneumatic control which is effected during the first range of movement. When the handle

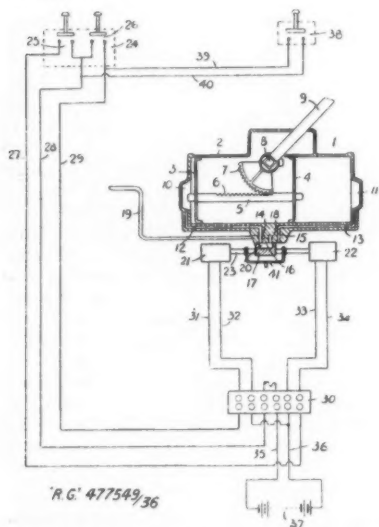


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is in the full electro-pneumatic application position, the contact lever 16 would assume the application position to the left of that shown, which is the holding position, and in order to return it to this latter position during the pneumatic control range, a cam 51 is mounted on the shaft 2 and engages a roller 52 on an arm 53 provided on the contact lever. When, however, the handle reaches the emergency position the cam permits return of the contact lever to the application position so that the electro-pneumatic and pneumatic controls are simultaneously effective to apply the brakes.—(Accepted December 24, 1937.)

No. 477,549. Door Operating Mechanism

A. G. Kershaw, K. H. Leech, and Westinghouse Brake & Signal Co. Ltd., all of 82, York Road, King's Cross, London, N.1. (Application date: July 3, 1936.)



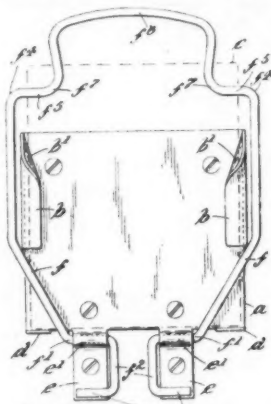
A fluid pressure door engine is controlled by an electromagnetically operated valve with mechanical means for setting the valve into a neutral position to allow operation of the door by hand. In the form shown, the engine comprises two cylinders with pistons con-

nected by a rack bar 6 engaging a sector on the door operating lever 9. The outer ends of the cylinder are connected by passages 12, 13 to a slide valve 17 by which they are alternately connected to the atmosphere and to a pipe 19 leading from a vacuum (or pressure) reservoir. The valve 17 is operated to either extreme position by electromagnets 21, 22 under the control of driver's switches 26 and a conductor's switch 38; and mechanical means are provided at 41 whereby passengers can move the valve 17 to a central position, thus opening both cylinders to the atmosphere so that the door is balanced and can be moved by hand. A number of doors in a vehicled train may be controlled from the same switches.—(Accepted January 3, 1938.)

No. 479,875. Label Holders for Wagons

J. O'Neill, of the Executive Research Office, L.M.S.R., Euston station, London, N.W.1; and G. S. Hussey, of the Department of the Chief Officer for Labour and Establishment, L.M.S.R., Euston station, London, N.W.1. (Application date: August 14, 1936.)

These are label holders for railway wagons comprising fixed guiding and supporting means for the label, in com-



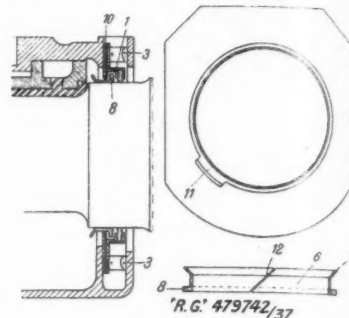
bination with a spring clip in the form of a bail having laterally bowed limbs which clear the face of the label, the top corners of which are engaged by the upper contracted end of the bail. As shown, a plate *a* is provided with ledges *d* and turned-over flanges *b* with flared ports *b'*, the top corners of the label *c* being gripped by the part *f* of the bail *f'*. In another form the spring clip includes a pivoted bail biased by a coil spring housed in a part of the plate, which housing forms the bottom support of the label.—(Accepted February 14, 1938.)

No. 479,742. Axlebox Seals

G. Stromeier, of Lützowstrasse 107, Berlin, W.35, Germany. (Convention date: August 13, 1937.)

In an axlebox the dust shield 1 is of "Z" cross-section and its flange 2 is pressed by springs 3 against the dividing wall thereof. The shield has packing rings 4. On the axle is a ring 6

with an oil-throwing flange 7 extending into the oil chamber, and a guide flange 8 between the packing 4 and the dividing wall. If the aperture in the latter

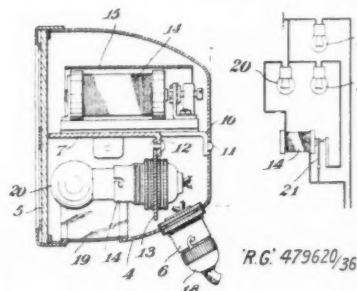


is too large a plate 10 is inserted against the dividing wall. To facilitate assembly the plate 10 may have a cut-out notch 11, and the ring 6 a split 12, and the ring 6 is deformed into spiral shape and screwed into position. When the whole of the flange 8 has entered the notch 11, the ring 6 springs into its normal shape.—(Accepted February 10, 1938.)

No. 479,620. Electric Tail Lamp

C. F. Smith, of 31, Sandy Lodge Way, Northwood, Middlesex. (Application date: October 14, 1936.)

An electric tail lamp for a railway vehicle includes a principal lamp 20 and an emergency lamp 22 mounted on a removable base member 7 arranged diametrically in a circular casing 4, the emergency circuit being energised on failure of the principal circuit by de-energisation of an electromagnet 14 also mounted on the base member 7. The electromagnet



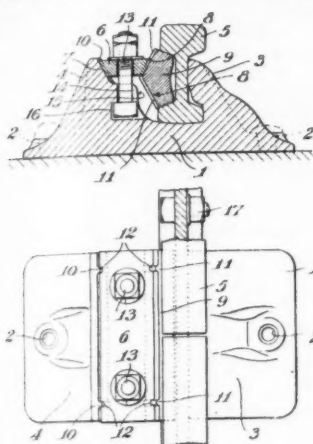
when energised by the switching on of the principal lamp 20 causes the armature 21 to break the emergency circuit. An independent signal lamp 16 may be provided.—(Accepted February 9, 1938.)

No. 477,616. Chair for Rail-Joints

S. S. Widdas, of 100, Clive Road, Canton, Cardiff. (Application date: July 8, 1936.)

Rails are supported in chairs 1 by a wedge 6 which is forced downwards between a chair jaw 4 and a fishplate 9 of pentagonal section engaging the rail. Rail creep is prevented by ribs 10, 11 on the jaw, and fishplate-engaging grooves in the wedge. The wedge is

held down by bolts 13, the heads of which engage recesses 16 in the chair jaw. A bolt 17 through the web of the



rail co-operates with the chairs to restrict rail creep.—(Accepted January 4, 1938.)

COMPLETE SPECIFICATIONS ACCEPTED

- 468,090. Ransford, A. J., communication from D. R. M. Yates. Liquid transportation tanks or like containers.
- 472,793. Livsey, D. M. "Apparatus for weighing locomotives and rail vehicles."
- 472,950. Slyder, M. "Railway rail joints."
- 473,127. Bushnell, C. S., and General Railway Signal Co. Ltd. "Control of railway traffic."
- 473,310. Westinghouse Brake & Signal Co. Ltd. "Remote-control systems."
- 473,759. Vereinigte Eisenbahn-Signal-Werke Gesellschaft. "Arrangement for inductive signalling between locomotive and track apparatus."

474,048. Fryba, J. "Train-operated electric contact devices."

473,987. Westinghouse Brake & Signal Co. Ltd. "Fluid pressure braking-apparatus."

474,397. Baker, W. S. Graff-, Stafford, H. A., and London Passenger Transport Board. "Train deceleration control devices."

474,172. Stewart, A. C., and Campbell, J. "Railway fog or like signal."

474,101. Williams, L. Wynn-. "Shock-absorbers for railway signal wires and other flexible elements."

474,328. Watt, T. "Locomotives of the type particularly adapted for underground haulage purposes."

474,787. Westinghouse Brake & Signal Co. Ltd. "Railway traffic controlling-apparatus."

475,111. Westinghouse Brake & Signal Co. Ltd. "Wheel-operated electric contact devices for railways and the like."

475,112. Westinghouse Brake & Signal Co. Ltd. "Braking-equipment for railway and other vehicles."

475,146. Peters & Co. Ltd., G. D., and Negus, G. H. "Pneumatic brake apparatus for rail vehicles."

475,074. Muller, A. H. "Elevated railways."

474,865. Tustain, E. H. "Sighting-boards for determining levels in the construction, maintenance, or repair of railways."

476,769. Scharfenbergkupplung A.G., and Scharfenberg, K. "Couplings for railway vehicles."

475,923. Algrain, P. "Bogies for railway and like vehicles."

476,077. Jackson, L. Mellersh- (Langford, G.). "Rail joints."

476,217. Ruping, M. "Resilient means for fastening rails to wooden sleepers."

476,101. Zavody Tatra Akciova Spolecnost Pro Stavbu Automobilu a Zeleznich Vozu. "Road and rail motor vehicles."

477,064. Thornton, A. A. (Bochumer Verein für Gusstahlfabrikation A.-G.). Device for the hardening by quenching of rail heads or similar longitudinal surfaces.

477,271. Dobrowolny, J. Railway rail joints.

477,333. Kershaw, A. G., and Westinghouse Brake & Signal Co. Ltd. Driver's control devices for fluid-pressure braking apparatus.

477,334. Lascelles, T. S., and Sykes Interlocking Signal Co. Ltd. Block signalling systems for railways and the like.

477,549. Kershaw, A. G., Leech, K. H., and Westinghouse Brake & Signal Co. Ltd. Door-operating mechanism for railway and like vehicles.

477,470. Lorenz, A.-G., C. Railway signalling apparatus.

477,838. Pearson, J. B. Laying of railway tracks.

477,847. Westinghouse Brake & Signal Co. Ltd. Apparatus for controlling railway switches and the like.

477,616. Widdas, S. S. Chair for railway rail joints.

477,866. Tatra Works Limited, Motor-car and Railway Carriage and Wagon Builder, and Ledwinka, H. Supporting-arrangements for the tracks of endless-track vehicles.

477,671. General Railway Signal Co. Ltd. Route-setting systems for railways.

478,139. Tadros, Z. Apparatus for mechanically operating level-crossing gates.

478,267. Tyer & Co. Ltd., and King, V. S. Electrical instruments for signalling on railways.

478,168. Superheater Co. Ltd. Steam driven locomotives.

479,088. Vereinigte Eisenbahn Signalwerke Ges. Automatic interlocking systems for railways.

479,237. Pearson, J. B. Locking-apparatus for railway turntables.

479,875. O'Neill, J., and Hussey, G. S. Label-holders particularly applicable to railway and like wagons.

479,620. Smith, C. F. Electric tail-lamp for automobiles and railway trains.

479,714. Schweizerische Industrie Ges. Rail-guided vehicles.

479,815. Autophone Soc. Anon. Station indicators for public vehicles.

479,592. Sheffield, G. H., and Sheffield & Co. (Engineers) Ltd., G. H. Construction of bogie trucks for railway and like vehicles.

479,742. Stromeier, G. Axlebox seals.

L.N.E.R. Train Service Reductions

The L.N.E.R. reductions of train service referred to briefly in THE RAILWAY GAZETTE last week are confined exclusively to short distance services, and many of them affect trains which ran on Saturdays and Sundays only, lack of patronage not warranting their continuance. Among these changes the 11.25 a.m. stopping train from Hull to York is withdrawn, but the 12.20 p.m. express now starts at 12.3 p.m. and makes additional stops at Market Weighton and Pocklington; in the reverse direction the 2.50 p.m. slow from York to Hull is cancelled, and the 2.35 p.m. express stops additionally at Pocklington and Market Weighton, taking 6 min. longer on its journey to Hull. This is typical of the combination of facilities previously duplicated. Except on Saturdays the 10.5 a.m. from Darlington to Penrith now runs to Barnard Castle only, so that no service is provided from Darlington to Kirkby Stephen and beyond between

3.50 a.m. and 12.40 p.m.; similarly in the reverse direction the 1.3 p.m. from Penrith to Darlington now starts at Barnard Castle. The 10.25 a.m. from Scarborough to Hull, which carried a through portion for attachment at Hull to the express reaching King's Cross at 3.47 p.m., is withdrawn, and the coaches are attached instead to the 11 a.m. from Scarborough to York, being there transferred to the 8.5 a.m. from Edinburgh, due King's Cross 4.15 p.m. Between York and Leeds the 10.33 a.m. slow and 8.5 p.m. express trains from York to Leeds, and the 11.5 a.m., 2.45 p.m., and 5.50 p.m. expresses from Leeds to York are withdrawn; the last-named is the train that was specially put on to give Leeds a fast connection with the down Coronation. In Scotland the 9.45 p.m. from Edinburgh to Glasgow direct is discontinued, but service at this hour is still provided by the 9.50 p.m. via Bathgate, and the 10.30 p.m. (the Coronation connection),

which calls additionally at Linlithgow. The 1.7 p.m. from Glasgow to Dundee runs no further than Kirkcaldy, where its passengers are transferred to the 2 p.m. from Edinburgh; the through Aberdeen coach is no longer run on the Glasgow train, and the buffet car is transferred to the 11.55 a.m. from Glasgow to Dundee. The 8.52 a.m. from Edinburgh to North Berwick and the return service at 9.50 a.m. are discontinued. In the Southern Area the only change of any note is the withdrawal of the 12.35 p.m. except on Saturdays from Liverpool Street to Colchester and the 2.50 p.m. from Colchester to Liverpool Street, two trains of recent institution. All other alterations are purely local, and the majority of them are unimportant.

SOUTHERN CAMPING COACHES.—Owing to the success of its camping coaches, the Southern Railway has decided to convert six additional bogie coaches for next season, and to place these at attractive points in Devon.

NOTES AND NEWS

Southampton Dock Charges.—The Southern Railway Company has made an application to the Minister of Transport for an order increasing certain of the maximum rates, rents, tolls, and charges leviable by the company at Southampton docks.

Record Swiss Speed on Special Trip.—The highest speed ever attained on Swiss railways was recorded during a special run by one of the two streamlined lightweight electric three-car units of the Swiss Federal Railways on October 22, when a maximum of 180 km. (112 m.) p.h. was reached on the straight and level stretch between Martigny and Riddes, on the Simplon route. A party of some 60 French engineers was carried, accompanied by Swiss railway officials and others, totalling about 100 passengers.

Insurance of Livestock by Freight Train.—The experimental insurance scheme for cattle, calves, sheep and lambs, bacon pigs and porkers, and horses, introduced by the British railways in 1934, has been renewed for a further twelve months from November 1, 1938, to October 31, 1939. Under this scheme the owners of livestock may insure their animals against death or injury during transport by goods train by the prepayment of premiums costing a few pence only. A minimum premium of 2d. a consignment is made.

Kilsby Tunnel, L.M.S.R.—In connection with drainage work now being carried out in Kilsby tunnel on the main London-Birmingham line of the L.M.S.R., Weedon and Welton stations were closed to Sunday traffic on October 2, and will continue to be closed on Sundays until further notice. Complete occupation of Kilsby tunnel, when required, is thus available on Sundays by the Civil Engineer's department, as trains are diverted when necessary via the Northampton line, which enables all points except Weedon and Welton to be served.

American Wages not to be Reduced.—President Roosevelt's emergency railway investigating board has recommended that the railways should withdraw their demand for a reduction of 15 per cent. in wages. In a lengthy opinion contained in its report to the President on the wage situation, the board says: "Wage reduction in the railroad industry would run counter to the trend of wage rates in industry generally." The President has made no comment on the report, but was conferring with the leaders of railroad management and labour on Monday, according to a Reuters message from New York dated October 29.

Waterloo & City Railway Improvements.—Mr. R. M. Holland-Martin, Chairman of the Southern Railway, replying to a deputation from the Waterloo & City Railway Passengers' Protest Committee last Monday, stated

that the technical difficulties with regard to improving the rolling stock on the Waterloo & City Railway had been overcome. Details had been agreed with the L.P.T.B. as to building a three-way escalator at the Bank with low-level access between the Waterloo & City and the Central Lines. The plan for this construction will be included in the Southern Railway Bill to be presented to Parliament before the end of the current year. Meantime, trains are run during the rush hours up to the capacity of the line, namely 22 an hour each way. Experimental ticket-issuing machines have been installed at Waterloo and the Bank.

Rheingold Express to Milan.—From next May passengers leaving Liverpool Street station, L.N.E.R., by the Hook Continental at 8.15 p.m. will be able to travel through to Italy from the Hook of Holland by the Rheingold Express, which in the next continental summer timetables will be extended from Basle by the Gotthard route to Milan.

Railway Freight Rebates.—The Railway Rates Tribunal will sit on Tuesday, November 29, to review the operation of the Railway Freight Rebates Scheme for the year to September 30, 1938. An application will be made by the railway companies to raise the amount allowed for administrative expenses from one half per cent. to one per cent. Notices of appearances before the tribunal must be given on or before November 18.

Isle of Man Air Services.—More than 600,000 aircraft miles have been flown without any mishap to passenger or consignment during the first year's operation, which has just been concluded, of the Isle of Man Air Services. During this period its aircraft have conveyed over 26,000 passengers and more than 500,000 lb. of mails and freight. About 20 passengers now hold season tickets for regular journeys between the Isle of Man and the mainland. Isle of Man Air Services Limited was formed last year by a fusion of the interests in air transport to the island of the L.M.S.R., the Isle of Man Steam Packet Company, and Blackpool & West Coast Air Services Limited.

G.W.R. Ambulance Presentation at Ealing.—Mr. F. R. Potter, Superintendent of the Line, G.W.R., was the guest of honour at the annual smoking concert and presentation of awards arranged by the Ealing ambulance class at the Drayton Court Hotel on October 28. Mr. G. H. Holmes, Station-master, Ealing Broadway, presided, and was supported by Mr. C. T. Cox, Divisional Superintendent, Mr. R. H. Nicholls, late Superintendent of the Line, Mr. A. C. Cookson, late Stores Superintendent, Dr. E. J. Selby, O.B.E., Divisional Surgeon, S.J.A.B., Messrs. F. W. Green and R. H. B. Nicholls,

Assistant Divisional Superintendents, and local officials. In distributing the large number of examination awards, Mr. Cox congratulated the class on the fact that all its 73 members, including 15 recruits, had passed the examination. Gold efficiency medals and bars were handed to eleven members of the class, and on behalf of the members presentations were made to Dr. Selby and Mr. W. G. Goode, Lecturer and Secretary, respectively, in appreciation of their services.

Inquiry into Railway Position in Eire.—The *Irish Press*, which is considered the organ of the Government of Eire, stated prominently on Saturday last, October 29, that since the recent railway crisis an inquiry was to be held into the administration of the affairs of the Great Southern Railways Company, considered in conjunction with the general examination of the transport position. It is presumed, writes our Dublin correspondent, that this examination is proceeding in the Department of Industry and Commerce in connection with the expected Transport Bill. Evidently the inquiry is one of routine necessitated by the proposed legislation, and there does not appear to be any suggestion that it should be a public inquiry.

Retired Railway Officers' Society.—During the past year the membership of the Retired Railway Officers' Society was 138, compared with 136 in the preceding 12 months. The society's report states that seven monthly meetings were held, and were attended on an average by 42 members. Of the social functions, the ladies' afternoon tea attracted the highest attendance (81 ladies and members) since its introduction in 1930, while the gathering of 86 at the Spring luncheon corresponded with that of the preceding year. At the Autumn luncheon, however, held for the first time at the Charing Cross Hotel, the attendance of 141 constituted a record. The venue of the Summer meeting was the West Coast of Scotland, and enjoyment of the party of over 50 members and near relatives was much enhanced by the many facilities accorded by the L.M.S.R.

Internal Transport at the Glasgow Exhibition.—The Empire Exhibition at Glasgow closed last Saturday, October 29. Reference to railway arrangements for the conveyance of visitors to Glasgow from all parts of the British Isles has been made in various issues of THE RAILWAY GAZETTE, and this week we illustrate on page 790 a popular feature of internal transport at the exhibition—the miniature railway running round the amusement park. The more serious business of conveyance between the numerous pavilions and other attractions in the exhibition grounds was performed by Lister auto-trucks, fifty of which were in use. During the period of the exhibition they travelled over 150,000 miles and carried more than 1,500,000 people. About 12½ million persons visited the

exhibition. These trucks were first used for exhibition purposes at the British Empire Exhibition in Buenos Aires in 1931, and again at the Empire Exhibition in Johannesburg in 1936. They are regularly used for the installation of exhibits at the British Industries Fair.

Train Bombed in Spain.—During an aerial attack on Alcira on October 31, a passenger train was wrecked just as it was leaving Algemesi station. Owing to lack of other means of communication and restricted train service, the carriages were overcrowded, says a telegram to *The Times*, and the casualty roll was heavy, 21 persons being killed and nearly 80 wounded. Algemesi is on the main line from Valencia to Albacete and Madrid, and is 20 miles from Valencia.

L.N.E.R. Accountant's Department Recreative Society's Annual Dinner.—Mr. G. Sutherland, Chief Accountant, London & North Eastern Railway and President of the Accountant's Department Recreative Society, presided at the 57th annual dinner, followed by a concert, which was held at the Abercorn Rooms, London, on Fri-

day, October 28. There was an attendance of 130 and among those present were:

Sir Ralph Cope, late Chief Accountant, G.W.R.; Messrs. G. Morton, Chief Accountant, L.M.S.R.; C. R. Dashwood, Chief Accountant, G.W.R.; C. S. Louch, Accountant and Comptroller, L.P.T.B.; C. H. Sutherland, Assistant Accountant, L.M.S.R.; A. E. Moore, Audit Accountant, Southern Railway; J. A. Kay, Editor, *THE RAILWAY GAZETTE*; C. A. Everard Greene, British Tabulating Machine Co. Ltd.; E. Marsh, Southern Railway; F. V. H. Seale, Auditor; W. Chambers and J. Taylor, Dean & Dawson; F. J. Orchin, A. Feirn and F. Hind, Ministry of Transport, London & North Eastern Railway officers included Messrs. C. J. Selway, J. E. Ryan, W. H. Johnson, L. C. Glenister, G. Skelton, G. N. Rhodes, T. Gaynor, W. Philip, H. S. Alsop, J. Inglis, R. W. McEwen, and J. Procter Smith (late Divisional Accountant).

After an excellent dinner all joined heartily in the community singing. Mr. L. C. Glenister then proposed the toast of "The Visitors," briefly mentioning something appropriate to the various visitors. Mr. G. Morton suitably replied. A musical and variety programme, arranged under the direction of Mr. Bernard Barker, followed, and was much appreciated.

British and Irish Railway Stocks and Shares

Stocks	Highest 1937	Lowest 1937	Prices	
			Nov. 2, 1938	Rise/ Fall
G.W.R.				
Cons. Ord.	67 ³ / ₈	55 ⁵ / ₈	29 ¹ / ₂	-2
5% Con. Prefce....	127	108	92 ¹ / ₂	-1
5% Red. Pref.(1950)	113	109	9 ¹ / ₂	+1 ¹ / ₂
4% Deb.	113 ⁵ / ₈	102 ¹ / ₂	103 ¹ / ₂	—
4 ¹ / ₂ % Deb....	118	106	104 ¹ / ₂	—
4 ¹ / ₂ % Deb....	124 ¹ / ₂	112	110 ¹ / ₂	—
5% Deb.	136 ¹ / ₂	122 ³ / ₄	122 ¹ / ₂	—
2 ¹ / ₂ % Deb....	76	64	66 ¹ / ₂	—
5% Rt. Charge ...	1337 ¹ / ₁₆	118	119 ¹ / ₂	—
5% Cons. Guar. ...	133 ³ / ₄	116 ¹ / ₂	113	- ¹ / ₂
L.M.S.R.				
Ord.	36 ¹ / ₈	25 ⁵ / ₈	13 ¹ / ₄	- ¹ / ₄
4% Prefce. (1923) ...	82 ¹ / ₂	65 ⁵ / ₈	28 ¹ / ₂	-1
4% Prefce.	92 ¹ / ₂	77 ³ / ₄	52 ¹ / ₂	-1
5% Red. Pref.(1955)	107 ¹ / ₂	102	76 ¹ / ₂	—
4% Deb.	108	99 ¹ / ₄	99 ¹ / ₂	—
5% Red. Deb.(1952)	117 ¹ / ₂	111	108*	—
4% Guar.	104	95 ⁷ / ₈	89 ¹ / ₂	-1
L.N.E.R.				
5% Pref. Ord.	12 ¹ / ₂	6 ³ / ₄	4 ¹ / ₄	- ¹ / ₄
Def. Ord.	6 ¹ / ₄	3 ⁵ / ₈	2 ⁵ / ₈	- ¹ / ₈
4% First Prefce.	79 ¹ / ₂	63	27 ¹ / ₂	-1
4% Second Prefce.	31 ¹ / ₂	21	10 ¹ / ₂	- ¹ / ₂
5% Red. Pref.(1955)	101 ¹ / ₂	89 ³ / ₄	45 ¹ / ₂	—
4% First Guar.	103	91 ⁷ / ₈	80 ¹ / ₂	—
4% Second Guar.	97 ⁵ / ₈	85 ¹ / ₂	59 ¹ / ₂	—
3% Deb.	84 ¹ / ₈	74	70 ¹ / ₂	—
4% Deb.	107 ¹ / ₄	98 ¹ / ₂	93 ¹ / ₂	+1 ¹ / ₂
5% Red. Deb.(1947)	113 ¹ / ₂	106 ¹ / ₂	106 ¹ / ₂	+1
4 ¹ / ₂ % Sinking Fund	110 ³ / ₁₆	105 ¹ / ₂	105 ¹ / ₂	—
Red. Deb.				
SOUTHERN				
Pref. Ord.	98 ⁵ / ₈	83 ¹ / ₂	55 ¹ / ₂	—
Def. Ord.	27 ⁷ / ₈	16 ³ / ₄	12 ¹ / ₂	—
5% Pref.	126 ¹ / ₁₆	105 ¹ / ₁₆	96 ¹ / ₂	—
5% Red. Pref.(1964)	118	110 ¹ / ₄	100 ¹ / ₂	—
5% Guar. Prefce.	133 ³ / ₄	116 ³ / ₄	112 ¹ / ₂	—
5% Red. Guar. Pref.	118 ¹ / ₂	111 ¹ / ₂	110 ¹ / ₂	—
(1957)				
4% Deb.	112	101 ¹ / ₄	103 ¹ / ₂	—
5% Deb.	135 ³ / ₄	123 ¹ / ₂	122 ¹ / ₂	-1
4% Red. Deb.	113	105	105 ¹ / ₂	—
1962-67				
BELFAST & C.D.				
Ord.	5	4	4	—
FORTH BRIDGE				
4% Deb.	106	99 ¹ / ₂	100 ¹ / ₂	—
4% Guar.	105 ³ / ₄	99	99 ¹ / ₂	—
G. NORTHERN (IRELAND)				
Ord.	11	5	2 ¹ / ₂	—
G. SOUTHERN (IRELAND)				
Ord.	50	21 ¹ / ₂	11	—
Prefce.	61	34	19 ¹ / ₂	+3
Guar.	94 ³ / ₄	69 ¹ / ₂	39	- ¹ / ₂
Deb.	95	82 ¹ / ₈	65	+2
L.P.T.B.				
4 ¹ / ₂ % "A"	123 ³ / ₄	110 ¹ / ₂	115 ¹ / ₂	—
5% "A"	135	121 ¹ / ₂	123 ¹ / ₂	—
4 ¹ / ₂ % "T.F.A."	108 ³ / ₄	104	104	—
5% "B"	125	114 ¹ / ₂	116 ¹ / ₂	—
5% "C"	99 ³ / ₄	75	75 ¹ / ₂	-1 ¹ / ₂
MERSEY				
Ord.	42 ³ / ₈	22	20	—
4% Perp. Deb.	103	96 ³ / ₄	97 ¹ / ₂	—
3% Perp. Deb.	77 ⁵ / ₈	74 ¹ / ₂	67 ¹ / ₂	—
3% Perp. Prefce.	68 ³ / ₄	61 ¹ / ₄	55	-4

British and Irish Traffic Returns

GREAT BRITAIN	Totals for 43rd Week			Totals to Date		
	1938	1937	Inc. or Dec.	1938	1937	Inc. or Dec.
L.M.S.R. (6,834½ mls.)						
Passenger-train traffic...	461,000	460,000	+ 1,000	22,852,000	22,843,000	+ 9,000
Merchandise, &c. ...	444,000	540,000	- 96,000	19,337,000	21,321,000	-1,984,000
Coal and coke ...	261,000	269,000	- 8,000	10,688,000	10,922,000	-234,000
Goods-train traffic ...	705,000	809,000	-104,000	30,025,000	32,243,000	-2,218,000
Total receipts ...	1,166,000	1,269,000	-103,000	52,877,000	55,086,000	-2,209,000
L.N.E.R. (6,315 mls.)						
Passenger-train traffic...	295,000	287,000	+ 8,000	14,772,000	14,854,000	- 82,000
Merchandise, &c. ...	324,000	406,000	- 82,000	13,545,000	14,658,000	-1,113,000
Coal and coke ...	251,000	283,000	- 32,000	10,109,000	10,641,000	- 532,000
Goods-train traffic ...	575,000	689,000	-114,000	23,654,000	25,299,000	-1,645,000
Total receipts ...	870,000	976,000	-106,000	38,426,000	40,153,000	-1,727,000
G.W.R. (3,737 mls.)						
Passenger-train traffic...	186,000	192,000	- 6,000	9,606,000	9,681,000	- 75,000
Merchandise, &c. ...	197,000	219,000	- 22,000	7,987,000	8,634,000	- 647,000
Coal and coke ...	115,000	120,000	- 5,000	4,608,000	4,793,000	- 185,000
Goods-train traffic ...	312,000	339,000	- 27,000	12,595,000	13,427,000	- 832,000
Total receipts ...	498,000	531,000	- 33,000	22,201,000	23,108,000	- 907,000
S.R. (2,140 mls.)						
Passenger-train traffic...	280,000	283,000	- 3,000	14,295,000	14,343,000	- 48,000
Merchandise, &c. ...	69,000	77,000	- 8,000	2,624,500	2,748,000	- 123,500
Coal and coke ...	35,000	36,000	- 1,000	1,302,500	1,309,000	- 6,500
Goods-train traffic ...	104,000	113,000	- 9,000	3,927,000	4,057,000	- 130,000
Total receipts ...	384,000	396,000	- 12,000	18,222,000	18,400,000	- 178,000
Liverpool Overhead (6½ mls.)						
Mersey (4½ mls.) ...	4,480	4,243	+ 237	188,745	180,848	+ 7,897
*London Passenger Transport Board ...	572,500	576,200	- 3,700	10,169,700	10,121,700	+ 48,000
IRELAND						
Belfast & C.D. pass. (80 mls.)	1,737	1,788	- 51	110,386	114,144	- 3,758
" " goods	418	470	- 52	18,727	20,983	- 2,256
" " total	2,155	2,258	- 103	129,113	135,127	- 6,014
Great Northern pass. (543 mls.)	9,750	9,450	+ 300	486,650	491,150	- 4,500
" " goods	11,450	10,150	+ 1,300	391,150	409,250	- 18,100
" " total	21,200	19,600	+ 1,600	877,800	900,400	- 22,600
Great Southern pass. (2,076 mls.)	32,896	28,963	+ 3,933	1,614,032	1,611,404	+ 2,628
" " goods	45,554	51,354	- 5,800	1,725,632	1,775,861	- 50,229
" " total	78,450	80,317	- 1,867	3,339,664	3,387,265	- 47,601

* 18th week (before pooling)

* ex dividend

CONTRACTS AND TENDERS

W. G. Bagnall Limited has received an order from the Bengal Dooars Railway Administration for one F class superheated locomotive boiler to be supplied to the inspection of Messrs. Rendel, Palmer & Tritton.

Tank Wagons for Iraq

Hurst Nelson & Co. Ltd. has received orders from the Crown Agents for the Colonies for a total of 30 tank wagons, 4 ft. 8½ in. gauge, for the Iraq Railways, divided as follows: Twelve 40-ton bogie oil fuel tank wagons; four 20-ton four-wheeled oil fuel tank wagons; four 30-ton bogie petrol tank wagons; two 20-ton four-wheeled petrol tank wagons; and eight 40-ton bogie water tank wagons.

The Baldwin Locomotive Company has recently delivered to the Chilean State Railways seven 140-ton locomotives for service on the southern section of the system, between Santiago and Puerto Montt.

The Bengal-Nagpur Railway Administration has placed the following orders:—

George Turton, Platts & Co. Ltd.: Quantity of buffer cases and plungers.

Taylor Bros. & Co. Ltd.: 600 carriage and wagon tyres.

Linley & Co.: Three copper firebox tube plates.

G.W.R. Contracts Placed

The directors of the Great Western Railway have authorised the placing of the following contracts:—

J. F. Booth & Son: Demolition of existing brick goods shed and construction of new warehouse at Slough.

Taylor & Hubbard Limited: Supply, delivery, and erection of two 30-cwt. electric jib cranes at inwards shed, Hockley goods station.

W. T. Nicholls Limited: Alterations and additions to station buildings on the down side at Exeter (St. David's).

Geo. Palmer: Widening of Chase Road bridge, Acton.

Creed & Co. Ltd.: Provision and installation of Creed start-stop printing telegraph system at Bristol (Temple Meads) and Birmingham (Snow Hill) stations.

Ericsson Telephones Limited: Provision and installation of one-position manual exchange at Westbury station.

Standard Telephones & Cables Limited: Provision and installation of single channel carrier telephone system between Bristol and Exeter.

Middleton Bros.: Supply and erection of two 30-cwt. electric sack hoists in inwards shed at Hockley goods station.

P. C. Richardson & Co. (Middlesbrough) Ltd.: Supply and erection of chimney for Lancashire boilers at Old Oak Common carriage shed.

British Thomson-Houston Co. Ltd.: Supply and erection of two high tension switch panels at Old Oak Common sub-station.

Sovex Limited: Supply and erection of spiral chute in new goods warehouse, Millbay Docks, Plymouth.

E. C. & J. Keay Limited: Construction of a warehouse at Landore.

F. Pratten & Co. Ltd.: Supply and erection of timber-framed buildings at Thingley Junction, near Chippenham station, and at Farleigh Down near Box station.

Douglas Stewart & Co. Ltd.: Purchase, recovery, and removal of iron pipes from a section of the Burry Port and Gwendraeth Valley branch near Pembrey, Carmarthenshire.

During 1939, 406 miles of line are to be relayed or re-sleepered by the G.W.R. This will involve the use of 30,465 tons of new rails, 597,000 sleepers, and 198,000 cu. yds. of ballast.

The Churchill Machine Tool Co. Ltd., through J. B. Corrie & Co. Ltd., has received an order from the Siamese State Railways for seven 7-in. lathes to be supplied to the inspection of Messrs. Sandberg.

Liverpool Street-Shenfield Electrification, L.N.E.R.

The L.N.E.R. has recently placed three large contracts in connection with the electrification of the line from Liverpool Street to Shenfield, together with the connecting line from Fenchurch Street to Stratford. As already announced in THE RAILWAY GAZETTE, a contract has been placed with the Siemens & General Electric Railway Signal Co. Ltd. for the supply of electric signalling apparatus between Liverpool Street and Bethnal Green. A contract has also been placed with W. & C. French Limited for the construction of a fly-over viaduct at Aldersbrook between Manor Park and Ilford. There are four tracks on this section of line, the up and down through lines being on the north side of the up and down local lines. Local trains to Liverpool Street have at present to cross the up and down through lines to reach the appropriate platforms at Liverpool Street station, blocking the through lines in the process; the new fly-over viaduct to carry the local lines will avoid this. When the viaduct is completed, the present local lines east of Aldersbrook will become the through lines, and *vice versa*. A third contract has been placed with Wellerman Bros. and is for the construction of a retaining wall and booking hall, at Stratford station. Heavy works are in progress at Stratford, where new platforms are to be provided for tube trains, which will come to the surface at Stratford station to form interchange on the level with the L.N.E.R. New platforms are also to be built to accommodate the electric shuttle services which will eventually operate between Fenchurch Street and Stratford. All the platforms for tube trains, L.N.E.R. electric trains, and L.N.E.R. steam trains will be on the same level. The value of the contracts just placed is over £230,000.

Beruck & Comens (Engineers) Limited has received an order from the Indian Stores Department for 100,000 m.s. keys for 75-lb. R. to 115-lb. F.F.B.S. rails, at a total price of Rs. 19,750, f.o.r. Howrah.

Usines et Fonderies de Mariemont through H. J. Skelton & Co. has received an order from the Bhavnagar State Railway Administration for 15 tons of dogspikes to be supplied to the inspection of Messrs. Robert White & Partners.

Tenders are invited by the Chief Controller of Stores, Indian Stores Department (Engineering Section), receivable at New Delhi by November 28, for the supply of 51,500 steel boiler tubes and 150 steel brick arch tubes.

Tenders are invited by the East Indian Railway Administration, receivable by November 16, at the General Manager's Office, 105, Clive Street, Calcutta, for the supply of 50,000 m.s. tiebars for Duplex type cast-iron sleepers.

Tenders are invited by the Chief Controller of Stores, Indian Stores Department (Engineering Section), receivable by November 21, for the supply of 160 axles, 600 glut rings, and 440 tyres for broad-gauge carriages and wagons; 40 glut rings and 40 tyres for broad-gauge electric motor coaches; 30 glut rings and 55 tyres for 2 ft. 6 in. gauge carriages and wagons; two XI class driving crank axles, 15 straight axles, and 675 tyres for broad-gauge locomotives; and 12 tyres for 2 ft. 6 in. gauge locomotives.

Tenders are invited by the Chief Controller of Stores, Indian Stores Department (Engineering Section), receivable by November 21, for the supply of 80 copper flanged and unflanged locomotive firebox plates.

G.W.R. Bridge Reconstructions

The following bridge works are to be carried out:—

Reconstruction of the centre span of the bridge carrying the Weymouth line over a public road near Trowbridge.

Reconstruction of the bridge carrying the Bradford-on-Avon branch over a public road near Limpley Stoke.

Reconstruction of bridge carrying the Vron branch over a public road near Brymbo.

A new abutment is to be formed to the three-span bridge carrying the Brecon to Moat Lane line over the River Wye near Rhayader, while one span of the structure is to be filled in.

At Bampton (Oxon), the company will reconstruct Lew overbridge, at the same time carrying out strengthening at the request of the Oxford County Council.

The company is to reconstruct Wrexham Road bridge, Ruabon, and at the same time they will widen the structure, at the request of the Ministry of Transport.

During the reconstruction and lengthening of Houndiscombe Road bridge at Mutley, which work is being done as part of the improvements being effected at Plympton (North Road) station, the company has arranged with the Plymouth Corporation to widen the bridge.

Remedial work is being effected to a pier of the River Teign bridge on the main line near Newton Abbot, which was undermined as a result of recent heavy rainfall in the West of England. The work will necessitate the use, temporarily, of goods lines by passenger trains.

Railway Materials Required in Brazil

Under date September 27, the President of Brazil signed a Decree-Law (No. 750) opening a credit of 9,866 contos in favour of the Ministry of Transport for the purchase of railway material. According to local press reports, the Minister of Transport recently notified the Federal Council of Foreign Trade of the urgent necessity of purchasing locomotives and wagons for the Viação Paraná Santa Catharina in view of transport difficulties on that line which are delaying up-country loadings.

OFFICIAL NOTICES

In the Court of the Railway Rates Tribunal.
Local Government Act, 1929—
Eleventh Schedule
and
Railway Freight Rebates Act, 1936

1936 REVIEW OF THE OPERATION OF THE RAILWAY FREIGHT REBATES SCHEME AND APPLICATION IN RESPECT OF ADMINISTRATIVE EXPENSES.

NOTICE IS HEREBY GIVEN that the Railway Rates Tribunal will sit at 10.30 a.m. on Tuesday, the 29th November, 1938, in Court "A," Judges' Quadrangle, Royal Courts of Justice, London, W.C.2, to review the operation of the Railway Freight Rebates Scheme for the year ending 30th September, 1938, pursuant to the provisions of Part 1 of the Eleventh Schedule to the Local Government Act, 1929, and the Railway Freight Rebates Act, 1936.

NOTICE IS ALSO GIVEN that the Railway Companies to which the said Scheme applies have filed with the Tribunal an Application (1938, No. 696) pursuant to the provisions of sub-paragraph 1(a) of paragraph 5 of the said Part 1 of the Eleventh Schedule that in lieu of the sum of one half of one per cent. as directed by paragraph 5(1)(a) of Part 1 of the said Eleventh Schedule there shall be paid out of the Railway Freight Rebates Fund in respect of Administrative Expenses in respect of the period commencing on the 1st day of October, 1938, and ending on the 30th day of September, 1939, a sum equal to one per cent. of the aggregate of the estimated rate relief of the said Companies in respect of that period such sum to be exclusive of any payment out of the said Fund authorised by the Minister of Transport under the provisions of Subsection (3) Section 2 of the Railway Freight Rebates Act, 1936; which Application will also be heard at the above-mentioned time and place.

NOTICE IS FURTHER GIVEN that Accounts and Statements relative to such Review have been lodged with the Tribunal.

Such Accounts and Statements and the aforesaid Application may be inspected at the Office of the Registrar, Bush House, Aldwych, London, W.C.2, at any time during office hours. Copies of the said Accounts and Statements may be obtained (price 2s. 6d. post free) on prepayment from the Secretary, the Railway Clearing House, Eversholt Street, London, N.W.1.

Any Railway Company to which the said Scheme applies or Representative Body of Traders interested, which may be desirous of being heard before the Tribunal on the Review must file a Notice of such desire and any person desiring to object to the aforesaid Application must file a separate Notice of Objection at the Office of the Registrar, Bush House, Aldwych, London, W.C.2, on or before Friday, the 18th day of November, 1938.

Such Notices must be on foolscap size paper and must state concisely the Submission (if any) which is desired to be made, and in the case of an Objection, the nature and grounds thereof. A Notice by a Representative Body of Traders must in addition contain a statement of the facts upon which such Body claims to represent a substantial number of persons interested in any or all of the selected traffics.

Each Notice filed must be stamped with an adhesive fee stamp for 2s. 6d. (which can be purchased at the office of the Tribunal only). If sent by post each Notice must be accompanied by a Postal Order for 2s. 6d. payable to the Registrar, Railway Rates Tribunal, when a stamp will be affixed at the office. Six additional copies of each Notice must be lodged with the original at the office of the Registrar.

Dated this 28th day of October, 1938.
 T. J. D. ATKINSON,
 Registrar.

AGENTS wanted to handle a unique Metallic Packing, good terms and existing connection will be allowed the right man. Apply by letter giving full details, terms required, territory covered, and details of past employment to: T. & L. TRADING CORPORATION LTD., 2, Basinghall Avenue, London, E.C.2.

REQUIRED.—Temporary Draughtsman in Signal and Telegraph Section of Railway Engineer's Office, London. Capable of preparing wiring diagrams; quick and neat Draughtsman. Knowledge of electrical work and previous drawing office experience essential. Salary will depend on qualifications and experience.—Reply Box No. 2910, c/o THE RAILWAY GAZETTE, 33, Tothill Street, Westminster, S.W.1.

New Zealand Government Railways

APPLICATIONS are invited for the position of Assistant Designing Engineer for the Locomotive Branch of the New Zealand Government Railways. Applicants must be Associate Members of the Institution of Civil or Mechanical Engineers, or have passed an equivalent examination, and be not more than 40 years of age. Salary £215 per annum. Applications close on the 1st December, 1938, with the High Commissioner for New Zealand, 415, Strand, London, W.C.2, from whom a printed statement giving fuller particulars regarding the appointment can be obtained.

Bengal-Nagpur Railway Company Limited

THE Directors are prepared to receive Tenders for:—

762 STEEL ENGINE TYRES.
 Specification and Form of Tender can be obtained at the Company's Office, 132, Gresham House, Old Broad Street, London, E.C.2, on or after 3rd November, 1938.

A fee of 20s. will be charged for each copy of the Specification, which is NOT returnable. Tenders must be submitted not later than Noon on Tuesday, 15th November, 1938.

The Directors do not bind themselves to accept the lowest or any Tender and reserve to themselves the right of reducing or dividing the order.

By Order of the Board,
 T. R. WYNNE,
 Managing Director.

Forthcoming Events

Nov. 4 (Fri.).—Institute of Transport (Newcastle Graduate), at Royal Station Hotel, 7.30 p.m. Display of Transport Films.

Omnibus Society, at Inst. of Marine Engineers, The Minories, London, E.C.3, 7 p.m. "Bus Services from London to the Country. Notes on their Development and Future," by Messrs. L. Nicholson and C. Klapper.

Nov. 4-5.—L.M.S.R. (London) Dramatic Society, at Fortune Theatre, Drury Lane, W.C.2, 8 p.m. "Berkeley Square."

Nov. 7 (Mon.).—Engineers' German Circle, at Inst. of Mechanical Engineers, Storey's Gate, London, S.W.1, 6 p.m. "Der Dampfkesselbau in Deutschland (Boiler Construction in Germany)," by Dipl.-Ing. F. Weber.

G.W.R. (Birmingham) Lecture and Debating Society, at Great Western Hotel, Snow Hill Station, 6.30 p.m. "Palestine Today," by Mr. A. Butler.

Permanent Way Institution (London), at Underground Railways' Dining Club, Pelsnam Street, S.W.7, 7 p.m. "Modern Signalling in Relation to Permanent Way," by Mr. O. S. Nock.

Nov. 8 (Tues.).—Institute of Transport (Birmingham), at Queen's Hotel, 6 p.m. "A Plea for a Scientific Enquiry into Transport," by Mr. G. Lissenden.

Institute of Transport (Metropolitan Graduate), at Inst. of Electrical Engineers, Savoy Place, W.C.2, 6 p.m. "Conservancy Duties in the Tideway of a Modern Port," by Mr. W. Flere.

Permanent Way Institution (Brighton), at Welfare Room, New England Street, 7 p.m. "Concrete Practice," by Mr. R. Blyth.

Permanent Way Institution (Sheffield), at Royal Victoria Hotel, 7 p.m. "Mechanical Signalling," by Mr. A. Moss.

Permanent Way Institution (York), at Railway Inst., Queen Street, 6.30 p.m. "Oxy-Acetylene Welding as Applied to Track Work," by Mr. R. Doré.

Nov. 9 (Wed.).—Diesel Engine Users' Association, at Caxton Hall, Caxton Street, London, S.W.1, 5 p.m. "Diesel Engines

and the World's Fuel," by Messrs. J. Broeze and J. Hinze.

Institution of Civil Engineers, Great George Street, London, S.W.1, 6 p.m. "The Relative Merits of Pre-Cast and Cast-In-Situ Piles," by Mr. A. Dean.

Nov. 10 (Thurs.).—G.W.R. (London) Lecture and Debating Society, in General Meeting Room, Paddington Station, 5.45 p.m. Debate with Birmingham Society.

Institute of Transport (Manchester-Liverpool Graduate), at Exchange Station Hotel, Liverpool, 6.45 p.m. "Trade and Transport," by Mr. K. Fenelon.

Institution of Civil Engineers (Birmingham), at James Watt Inst., Great Charles Street, 6 p.m. "Construction of Permanent Way for High Speed Traffic," by Mr. H. Whitley.

Institution of Electrical Engineers, Savoy Place, London, W.C.2, 6 p.m. "Thermal Power Plants for Peak Load and Emergency Service," by Mr. H. Hvistendahl.

Institution of Locomotive Engineers (London), at Inst. of Mechanical Engineers, Storey's Gate, S.W.1, 6 p.m. Discussion: "Is the Use of Ultra High Pressure Steam for Locomotives a Practical Proposition?"

Nov. 11 (Fri.).—Institute of Transport (Newcastle), at Black Lion Hotel, High Street, Stockton-on-Tees, 7.30 p.m. "Carriage of Goods by Road," by Mr. W. Walton.

Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, 6.30 p.m. "An Engineer's Impressions of Japan," by Mr. C. Le Clair.

Institution of Mechanical Engineers (East Midlands), at Technical College, Chesterfield, 7 p.m. "The History of the Locomotive," by Prof. C. Bulleid.

Nov. 12 (Sat.).—Permanent Way Institution (Manchester-Liverpool). Visit to Liverpool Overhead Railway.

Nov. 14 (Mon.).—Institute of Transport (London), at Inst. of Electrical Engineers, Savoy Place, W.C.2, 5.30 p.m. "Cross-Channel Services from the Passenger Viewpoint," by Mr. A. C. Hardy.

L.M.S.R. Centenary Banquet, at Grosvenor House, Park Lane, London, W.1.

L.N.E.R. MUSICAL SOCIETY DINNER AND DANCE.

—The L.N.E.R. Musical Society opened the season, on Wednesday, October 26, with a dinner and dance held in the Abercorn Rooms, Liverpool Street Hotel. Mr. C. H. Newton, Divisional General Manager, presided. Mr. Percy Syder, London City Manager, proposing the toast of "The Chairman," said that they hoped to have the pleasure of welcoming Mr. and Mrs. Newton at their gatherings for many years to come. The dance programme was varied and much appreciated. Music throughout was provided by the society's dance orchestra.

CZECH-GERMAN RAIL TRAFFIC.

—The German and Czechoslovak Governments signed an agreement on October 28 providing for the resumption of railway traffic between the Reich and Czechoslovakia from October 31. Actually, traffic was resumed on November 1 on various sections of line which cross or re-cross Germano-Czech frontiers at about 50 different points. It seems that, in return for facilities granted to the Czechs, Germany has obtained the privilege of transit traffic between Silesia and Austria across Czechoslovakia without customs, passport, or foreign exchange control, with consequent saving of time and avoidance of irritating formalities. Postal, telegraphic, and telephonic services between the two countries are also expected to be resumed at once.

Railway Share Market

At the beginning of the week general conditions in the stock and share markets were reactionary, awaiting the reassembly of Parliament, but following the Prime Minister's speech firmer conditions were in evidence and prices tended to show some recovery. Home railway securities were out of favour owing to the depressing nature of the past week's receipts and the belief that some time may have to elapse before there is likely to be an increase in fares in the London "pooled" area. Conflicting views as to dividend prospects have been an unsettling influence in regard to Great Western ordinary, which has been depressed at 29½, while the 5 per cent. preference made the lower price of 92½. Southern deferred fluctuated around 12½, while the preferred was dull at 55½ under the influence of disappointment with the past week's traffic figures. The 5 per cent. preference was steady at 96 "middle" but a purchaser would have to give at least 97½, at which the yield is rather less than 5½ per cent. The company's 4 per cent. debentures have been available at 105 to yield approximately 3½ per cent. L.M.S.R. securities

were affected by the heavy fall in traffic, but the 4 per cent. preference was around 52½ and the 1923 preference around 28, while the 4 per cent. guaranteed stock transferred at 89½ and the 4 per cent. debentures have been purchased at slightly under par. L.N.E.R. stocks were steadier than might have been expected, sentiment having been influenced by the contracts placed by the company in connection with electrification schemes. The first and second preference were 27 and 10 respectively. The 3 per cent. debentures have been bought at 71½ at which the yield is not far short of 4½ per cent., while the 4 per cent. debentures were around 94. London Transport "C" was lowered to 75½. At this price a generous yield is offered on the basis of last year's 4 per cent. dividend, but it would seem that the maintenance of this rate of dividend cannot be regarded as assured. The 4½ per cent. "A" and 5 per cent. "B" stocks were both quoted at 115.

Although the market for Argentine railway securities was inactive the undertone was steady, and prices were inclined

to improve under the influence of the statement that the B.A. and Pacific and Central Argentine railways have taken steps during the past year in connection with closer workings in order to secure co-operation and economies, and that further measures in regard to this are contemplated. B.A. and Pacific consolidated debentures were better at 37½, and some improvement was also recorded by the company's other debenture stocks. Central Argentine 4 per cent. debentures were higher at 61½ and improvement was shown in the ordinary and 4½ per cent. preference stocks. B.A. Gt. Southern ordinary and 6 per cent. preference were firmer at 12½ and 34 respectively.

American railway shares reacted following the adverse decision in regard to the claim for reduced wages, but later New York Central, Atchison, Union Pacific, and numerous other shares, showed a better tendency on the view that steps to assist the railways may be proposed by President Roosevelt before long. Following a reaction, Canadian Pacific ordinary and preference also developed a steadier appearance.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1937-38	Week Ending	Traffics for Week		No. of Weeks	Aggregate Traffics to Date			Shares or Stock	Prices						
			Total this year	Inc. or Dec. compared with 1937		Totals		Increase or Decrease		Highest 1937	Lowest 1937	Nov. 2, 1938	Yield (See Note)			
						This Year	Last Year									
South & Central America	Antofagasta (Chili) & Bolivia	834	30.10.38	£ 18 220	-	£ 1,210	44	£ 649 400	£ 725 070	-	£ 75,670	Ord. Stk.	29	101½	10	Nil
	Argentine North Eastern	753	29.10.38	10,229	+	1,377	18	192,847	185,461	+	7,386	A. Deb.	1914	6	51½	3
	Argentine Transandine	—	—	—	—	—	—	—	—	—	—	6 p.c. Deb.	9312	60	80	3
	Bolivar	174	Sept., 1938	3,500	-	250	39	33,650	49,350	-	15,750	Bonds	92	5	81½	Nil
	Brazil	—	—	—	—	—	—	—	—	—	—	Ord. Stk.	171½	51½	5	Nil
	Buenos Ayres & Pacific	2,806	29.10.38	72 705	-	10,484	18	1,250,065	1,416,813	-	166 748	Ord. Stk.	4112	18	15	Nil
	Buenos Ayres Central	190	15.10.38	8123 801	-	82,300	16	81,932 600	82,281,400	-	348 800	Mt. Deb.	33¼	131½	121½	Nil
	Buenos Ayres Gt. Southern	5,084	29.10.38	122 270	-	6,018	18	2,150,239	2,153,474	-	3,225	Ord. Stk.	31¼	111¼	9	Nil
	Buenos Ayres Western	1,930	29.10.38	42,122	-	7,382	18	677,915	819,666	-	141 751	"	34¼	10¼	101½	Nil
	Central Argentine	3,700	29.10.38	102,994	-	25,570	18	1,798,476	2,337,589	-	539,113	"	2012	42½	31½	Nil
	Do.	—	—	—	—	—	—	—	—	—	—	Ord. Stk.	6752	11½	3	Nil
	Cent. Uruguay of M. Video	972	22.10.38	17,401	+	571	17	274,037	258,676	+	15,361	Ord. Stk.	38	27	24	85½
	Cordoba Central	1,218	—	—	-	—	—	—	—	—	—	Ord. Inc.	107	106	105	51½
	Costa Rica	188	Aug., 1938	23,553	-	1,064	9	46 815	49,305	-	2,490	1 Mt. Db.	19716	6	6	Nil
	Dorada	70	Sept., 1938	15 800	-	1,400	39	148 000	139,600	+ 8,400	—	Ord. Sh.	54	18	14	Nil
	Entre Rios	810	29.10.38	15,422	+	2,631	18	274,005	249,476	+	24,529	Ist Pref.	2/	1/-	1½	Nil
	Great Western of Brazil	1,092	29.10.38	11 800	-	1,400	44	300 200	331,600	-	31,400	Ord. Stk.	812	6	81½	Nil
	International of Cl. Amer.	794	Sept., 1938	\$371,340	+	\$15,058	39	\$4,189,954	\$4,341,014	-	\$151,060	Ord. Stk.	914	3	2	Nil
	Interoceanic of Mexico	—	—	—	—	—	—	—	—	—	—	Ord. Stk.	112	14	13	Nil
	La Guaira & Caracas	221	Sept., 1938	6,210	+	1,745	39	46,880	47,665	-	785	Pr. Li. Stk.	316	2	1¼	51½
	Leopoldina	1,918	29.10.38	27,442	+	3,233	44	9 14,977	1,019,093	-	104 116	Ord. Stk.	84	7914	5712	5½
Mexican	483	21.10.38	\$215 800	-	\$41,300	16	\$4,204,000	\$4,853 500	-	\$649,500	Ord. Sh.	145½	412	3	Nil	
Midland of Uruguay	319	Sept., 1938	6,992	-	2,103	13	25 076	23 794	+	1,282	Pr. Li. Db.	2312	56	38	10½	
Nitrate	386	15.10.38	5,611	+	1,380	41	115,806	122 245	-	6,439	Ord. Stk.	10	2	2	Nil	
Paraguay Central	274	29.10.38	\$2,471,000	-	\$24,000	18	\$53,260,000	\$56,890,000	-	\$3,630,000	Ord. Stk.	176	5116	1	Nil	
Peruvian Corporation	1,059	Sept., 1938	64,805	-	25,148	13	212 547	263,674	-	51 127	Ord. Stk.	9812	116	58	16	
Salvador	100	22.10.38	10 275	-	2,825	17	418 261	203,634	-	420,373	Ord. Sh.	10	2	2	Nil	
San Paulo	1531	23.10.38	29,112	-	3,829	43	1,335,757	1,395,215	-	59,458	Ord. Stk.	176	5116	1	Nil	
Taltal	160	Sept., 1938	1,680	-	845	13	7,900	10 070	-	2,170	Ord. Sh.	588	3132	91	Nil	
United of Havana	1,353	29.10.38	13,506	-	1,793	18	288,675	301,714	-	13,039	Ord. Stk.	10	2	2	Nil	
Uruguay Northern	73	Sept., 1938	953	+	126	13	2,770	2,420	+	350	Deb. Stk.	10	2	2	Nil	
Canada	Canadian National	23,750	21.10.38	926,059	+	21,624	42	28,749,940	31,783,893	-	3,033,953	Perp. Dbs.	77	6212	68	5½
	Canadian Northern	—	—	—	-	—	—	—	—	—	4 p.c. Gar.	10173	9412	10112	35½	
	Grand Trunk	—	—	—	-	—	—	—	—	—	Ord. Stk.	18	714	7	Nil	
Canadian Pacific	17,186	21.10.38	729,200	+	70,000	42	22,338,000	23,006,000	-	668,000	Ord. Stk.	86	7312	7612	35½	
India	Assam Bengal	1,329	10.10.38	38 760	+	3,933	27	740,790	700,640	+	40,150	Ord. Sh.	6612	46	5712	61½
	Barsi Light	202	10.10.38	3 105	+	780	27	75 727	67 702	+	8,025	Ord. Stk.	317	301	283	4½
	Bengal & North Western	2,116	10.10.38	68,704	+	8,608	2	68 704	60 096	+	8,608	Ord. Sh.	100	84	8712	71½
	Bengal Doonars & Extension	161	20.10.38	5,622	-	769	28	81 855	81 482	-	373	"	101	89	9312	41
	Bengal-Nagpur	3,268	10.10.38	157,125	-	44,893	27	3,560,738	3,646 387	-	85,649	"	113	11012	10412	5½
	Bombay, Baroda & Cl. India	3,085	20.10.38	235 575	+	6,975	28	4,719 450	4,795 050	-	75 600	"	110	105	10412	8½
	Madras & Southern Mahratta	2,967	10.10.38	127 800	+	6,090	27	2,877 243	2,759 287	+	117,956	"	314	302	285	4½
	Rohilkund & Kumaon	546	10.10.38	12,375	+	276	2	12 375	12 099	+	276	"	10312	9912	10212	46
South Indian	2,531	10.10.38	115,494	+	1,108	27	2,214,594	2,224,056	-	9,462	"	—	—	—	—	
Various	Beira-Umtali	204	Aug., 1938	89,173	-	14,197	48	953,688	877 668	-	76,020	Prf. Sh.	31/-	34	12	Nil
	Egyptian Delta	620	10.10.38	7,409	-	314	27	111,107	118,102	-	7,455	Inc. Deb.	4818	4312	44	91½
	Kenya & Uganda	1,625	Aug., 1938	182,150	-	14,527	35	1,860,357	1,920,155	-	59,798	Ord. Sh.	98	9312	90	47½
	Manila	—	—	—	-	—	—	—	—	—	—	B. Deb.	4818	4312	44	91½
	Midland of W. Australia	277	Sept., 1938	17,029	+	2,026	13	44 686	37 926	+	6,760	Inc. Deb.	98	9312	90	47½
	Nigerian	1,900	17.9.38	34,643	+	1,058	25	729,553	1,166,988	-	437,435	—	—	—	—	—
	Rhodesia	2,442	Aug., 1938	416 851	-	21,777	48	4,539 620	4,203,086	+	336,534	—	—	—	—	—
	South Africa	13,293	8.10.38	605,779	-	31,531	28	16,865,039	17,473,991	-	608,952	—	—	—	—	—
Victoria	4,774	July, 1938	716,345	-	3,187	5	716,345	719,532	-	3,187	—	—	—	—	—	

NOTE.—Yields are based on the approximate current prices and are within a fraction of 1½

† Receipts are calculated @ 1s. 6d. to the rupee

§ ex dividend

The variation in Sterling value of the Argentine paper peso has lately been so great that the method of converting the Sterling weekly receipts at the par rate of exchange has proved misleading the amount being overestimated. The statements are based on the current rates of exchange and not on the par value